Central Council for Research in Indian Medicine and Homoeopathy

Annual Report 1972-73

MINISTRY OF HEALTH AND FAMILY PLANNING
(GOVT. OF INDIA)

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

RESOLUTION

The Government of India are pleased to constitute an autonomous Central Council for Research in Indian Medicine and Homoeopathy to initiate, guide, develop and coordinate scientific research in the different aspects, fundamental and applied of Ayurveda, Siddha, Unani and Homoeopathy Systems of Medicine and Yoga Therapy. The Central Council shall be registered as a Society under the Societies Registration Act, 1860-vide Resolution No. F, 1-3/68-AE, dated the 22nd May, 1969.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Aims and Objects

1. The formulation of aims and patterns of research on scientific lines in the Indian Systems of Medicine like Ayurveda, Siddha, Unani, Homoeopathy System of Medicine and Yoga.

2. The prosecution of and assistance in research, the propagation of knowledge and experimental measures, generally in connection with the causation mode of spread and prevention of disease.

3. To initiate, aid, develop and co-ordinate scientific research in different aspects, fundamental and applied of the Indian Systems of Medicine and Homoeopathy and Yoga to promote and assist institutions of research for the study of diseases, their prevention, causation of remedy.

4. To exchange information with other institutions, associations and societies interested in the objects similar to those of the Central Council and specially in observation and study of diseases in the East and in India in particular.

5. To prepare, print, publish and exhibit any papers, posters, pamphlates, periodicals and books for furtherance of the Central Council and to contribute to such literature.

6. To offer prizes and grant of scholarships, including travelling scholarships in furtherance of the objects of the Central Council.

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PREFACE

The annual report for 1972-73 presents activities of the Council together with achievements in different spheres. During the year under reporting, the Council arranged a Seientific Seminar and an exhibition; the former was inaugurated by Shri V.V. Giri, President of India and the latter by Shri R. K. Khadilkar, President of the Council. The Seminar discussed the methodology of research relevant to different systoms of medicine besides providing a forum for presentation of work by research workers and scientists associated with the Council in different disciplines. Notable feature of the year was providing incentives to research workers by awarding prizes.

Efforts to collect data useful for planning nation's health are in progress. Information relating to dietetic habits, disease proneness and factors responsible for this and folk lore remedies in vogue are being gathered in the programme. The raw drug requirements of the different research units are met by the Survey of Medicinal Plants Units as in the past. The Drug Standardisation and Preliminary Standardisation Researeh Units have made a great headway in evolving methods of standardisation as well as in laying standards for various medicinal preparations. The data available for certain of the ayurvedic preparations is considercd to help in incorporating the standards in the ayurvedic pharmacoepia. The Clinical Units are engaged in the study of the disease pattern, pathogenesis and therapeutic measures enunciated in different systems of medicine. The Central and Regional Research Institutes have played a vital role in fulfilment of the aims and objects of the Council.

The search for ideal contraceptive, though considered an utopia is in progress. This is a field where the research worker finds it hard to score a victory over the nature, nevertheless efforts are to be made so that at least a near ideal contraceptive with no risks or side effects may emerge. There is a constant race between galloping increase of population and the resources of the country. The progress or otherwise of the nation and the country as a whole is intimately related to the outcome of the result of race. Considering the country's economy and needs, research to identify a suitable drug of contraceptive potentiality has become a neeessity and efforts are in progress.

The Council published a number of monographs, list of which is provided in the report ; these monographs represent the work done

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under the organisation and it is considered that they will be of value to scientists as wall as research workers.

It is pertinent to reiterate that research continues to be a need for social and economic development as well as for the progress of the systems of medicine. It is a matter of great pleasure to mention that the Council has touched different categories of research and is able to contribute for the progress of medical science in general and various systems of medicine with which the Council is associated with in particular. The Council during the course of next year will be releasing monograps on *aragwadha* (*Cassia fistula*), *guggulu* (*Commiphora mukul*), *shatavari* (*Asparagus racemosus*), etc., which have reached the final stages of research. It will be heartening to indicate that isolation of the fractions of '*guggulu*' which have anti-inflammatory as well as hypolipaedaemic potentialities has been made. Further studies to confirm these potentialities by the Council are nearing completion.

Steps have been taken to extend the application of results of research in the treatment of a number of diseases. The Council has applied for patents for a number of therapeutically potential agents and the data will be released for a large scale application shortly.

The various activities could not have been possible but for the zeal and enthusiasm of the scientists, scholars and workers of the country. To all of them I express my sincere thanks,

P.N.V. KURUP

Director

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Central Council for Research in Indian Medicine and Homoeopathy

The Central Council for Research in Indian Medicine and Homoeopathy is registered under the Registration of Societies Act, XXI of 1860.

Governing Body

In the year under report, the term of non-official members expired in August, 1972 and new non-official members were nominated to the Governing Body. The Governing Body consists of :—

President : Shri Uma Shankar Dikshit (till February, 1973)
Shri R.K. Khadilkar

Senior Vice-President : Prof. D.P. Chatopadhyaya (till February, 1973)

Vice-President : Shri K.K. Dass (till December, 1972)
Shri R.N. Madhok (till January, 1973)
Shri C.S. Ramachandran

Members : Shri S.R. Mehta (till December, 1972)
Shri A.K. Sen (till February, 1973)
Shri Prem Nath
Dr. J.B. Srivastav
Dr. Y. Nayudamma
Dr. P.N. Wahi
Dr. Jugal Kishore
Shri Yashpal Kapoor, M.P.
Shri Govinddas Richharya, M.P.
Shri Sankta Prasad, M.P.
Pt. Shiv Sharma
Shri Durga Prasad Sharma
Shri Lal Chand Prarthi
Shri Poruthiyil Narayanan Vaidyar
Dr. V.S. Parvathy
Hakim Yusuf Hussain Khan
Hakim Abdul Hameed Mutawali
Swami Poornananda Tirtha
Swami Vishwananda
Dr. J.N. Sircar
Dr. A.U. Sriram
Dr. G.M. Patel

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	Dr. V. Narayanaswami
Member-Secretary :	Dr. P.N.V. Kurup

Deliberations of the Governing Body

Meeting of the Governing Body
26th August, 1972

The Governing Body met on the 26th August, 1972 and the details of the business conducted are recorded in the proceedings of the meeting. Some of the important decisions are as hereunder:—

1. It was decided that a Special Committee should be constituted to go into the Rules and Regulations and Bye-laws of the Council and to suggest suitable procedures and conventions that may be considered necessary.

2. The Governing Body ratified the decisions taken in the fifth and sixth meetings of the Executive Committee.

3. The following members were nominated as Chairmen of the respective Scientific Advisory Boards:—

Scientific Advisory Board (Ayurveda)	Pt. Shiv Sharma
Scientific Advisory Board (Siddha)	Dr. V.S. Parvathy
Scientific Advisory Board (Unani)	Hakim Yusuf Hussain Khan
Scientific Advisory Board (Yoga)	Swami Poornananda Tirtha
Scientific Advisory Board (Homoeopathy)	Dr. J.N. Sircar

4. Dr. V. Narayanaswami who is representing Ayurvedic University/ Faculty of Indian Medicine/Faculty of Medical Sciences with a section for Indian Medicine in the Governing Body was nominated as a member of the Executive Committee.

Executive Committee

President :	Shri Uma Shankar Dikshit (till February, 1973) Shri R.K. Khadilkar
Senior Vice-President	Shri D.P. Chatopadhyaya (till February, 1973)
Vice-President :	Shri K.K. Dass (till December, 1972) Shri R.N. Madhok (till January, 1973) Shri C.S. Ramachandran

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Members :

Shri S.R. Mehta (till December, 1972)
Shri A.K. Sen (till February, 1973)
Shri Prem Nath
Shri Yashpal Kapoor, M.P.
Shri Govinddas Richharya, M.P.
Dr. Jugal Kishore
Pt. Shiv Sharma
Dr. V.S. Parvathy
Hakim Yusuf Hussain Khan
Swami Poornananda Tirtha
Dr. J.N. Sircar
Dr. V. Narayanaswamy

Member-Secretary : Dr. P.N.V. Kurup

Deliberations of the Executive Committee

Meetings of the Executive Committee
15th December, 1972 and 5th March, 1973.

During the year 1972-73 the Executive Committee had two meetings on 15th December, 1972 and 5th March, 1973 and took decisions on the recommendations of the Scientific Advisory Boards and various other activities of the Council. The main decisions of the Executive Committee meetings are as below:—

Seventh meeting of the Executive Committee
15th December, 1972.

1. The Executive Committee should meet once in every three months.
2. The minutes should be got confirmed by the members by giving a definite time limit and only confirmed minutes should be brought up before the Governing Body for information/ confirmation.
3. Man-power requirements of various research projects under the Council should be met by advance planning.
4. The meetings of the Scientific Advisory Boards may be held one month in advance of the meeting of the Executive Committee.
5. The Executive Committee approved the implementation of the following schemes:—

   i) Regional Research Centre, Jammu

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ii) Regional Research Centre, Patna

iii) Regional Research Centre, Bangalore

iv) Two Orientation Training Centres for training Allopathic Drug Inspectors in Indian Systems of Medicine at Bangalore and Ranikhet.

v) Conducting of a Pilot Research studies on *Shalya* (Surgery) on experimental basis at the Central Research Institute for Ayurveda, Patiala with no additional beds, finances etc.

vi) Three Clinical Research Units for Unani Medicine one each at Allahabad, Bangalore and Srinagar.

vii) Two Literary Research Enquiries (Unani) at Patna and Hyderabad.

viii) Upgrading of the Central Research Institute (Unani), Hyderabad from 25 to 50 beds.

ix) The establishment of a second Central Research Institute (Unani) at a suitable location,

x) Strengthening of the Unani section of the Institute of History of Medicine, Hyderabad.

xi) One Research Unit at Shivanand Matha, Gauhati to study the therapeutic effects of Yoga on Blood pressure, coronary heart diseases and peptic ulcer.

6. The Executive Committee approved the proposal to hold the First Scientific Seminar of the Central Council for Research in Indian Medicine and Homoeopathy from 10th February, 1973 to 13th February, 1973 at Delhi.

7. Certain appointments, resignations and creation of some posts in the Headquarters Office of the Council and in the Units were also approved.

Eighth meeting of the Executive Committee
5th March, 1973

1. The Literary study in Homoeopathy may be undertaken by the Documentation Centre.

2. The Executive Committee resolved that the jurisdiction of the Central Vigilance Commission may be extended to the employees

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who are drawing a basic pay of Rs. 1,000/- per month and above under the Central Council for Research in Indian Medicine and Homoeopathy.

3. Exchange of a portion of land of the Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona with M/s Kirloskar Cummins Ltd., Poona was approved.

4. Recruitment Rules for certain Class I posts were approved.

5. The Executive Committee approved the proposal to purchase land and buildings from the Kumaon Cooperative Federation and plant, machinery, medicines etc. from the U.P. Cooperative Federation and establishment of an Institute of Pharmaceutical Research at Ranikhet,

6. Creation of certain posts in the Headquarters Office of the Council and in the Units were approved.

Scientific Advisory Boards

The tenure of the first Scientific Advisory Boards expired during the year under report and new Scientific Advisory Boards were constituted in March, 1973 by the Governing Body under Rule 46 of the Memorandum of Association, Rules, Regulations and Bye-laws of the Council. The reconstituted Boards consist of :—

1. **Scientific Advisory Board (Ayurveda) :**

Chairman : Pt. Shiv Sharma

Members :
Dr. L.S. Bhatnagar
Shri Prajapati Joshi
Kvj. Ashutosh Majumdar
Vd. Sita Ram Misra
Dr. Sadashiv Sharma
Dr. Ram Sushil Singh
Dr. C.P. Shukla
Vd. K.C. Pindawala
Dr. M.G. Wadalkar
Vd. M.L. Dwivedi
Vd. A.T. Sharma
Dr. P.K. Warriar
Dr. K. Subramaniam
Dr. N.V. Subba Rao

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Dr. B.B. Gaitonde

Member-Secretary : Dr. P.N.V. Kurup

2. Scientific Advisory Board (Yoga) :

Chairman : Swami Poornananda Tirtha

Members : Swami Dhirendra Brahmachari
Swami Shivananda Saraswathi
Swami Manuvaryaji
Shri M.L. Gharote
Shri O.V. Ramiah
Dr. Puspa D. Shirole
Dr. G.S. Chhina
Dr. K.N. Udupa

Member-Secretary : Dr. P.N.V. Kurup

3, Scientific Advisory Board (Unani) :

Chairman : Hakim Yusuf Hussain Khan

Members : Hakim S.M. Shibli
Hakim Iqbal Ahmed
Hakim Ghouse Mohiuddin
Hakim Syed Khaleefatullah
Hakim Mohamoodur Rehman Khan
Hakim Madan Sarup Gupta
Hakim Abdul Wahab Zahoori
Dr. K. Subramaniam
Dr. N.V. Subba Rao
Dr. B.B. Gaitonde

Member-Secretary : Dr. P.N.V. Kurup

4. Scientific Advisory Board (Siddha) :

Chairman : Dr. V.S. Parvathi

Members : Dr. C.S. Uthamaroyan
Dr. J.R. Krishnamurthy
Dr. E.R. Balakrishnan
Dr. V. Vishwanathan
Dr. V. Raghupathi
Dr. T.S. Parthasarathy

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Dr. R. Thyagarajan
Dr. K. Subramaniam
Dr. N.V. Subba Rao
Dr. B.B. Gaitonde

Member-Secretary : Dr. P.N.V. Kurup

5. **Scientific Advisory Board (Homoeopathy) :**

Chairman : Dr. J.N. Sircar

Members : Dr. P. Sankaran
Dr. A.U. Ramakrishnan
Dr. Dilip Sarkar
Dr. M.C. Batra
Dr. T.R. Chaddha
Dr. B.N. Chakrabarty
Dr. K.D. Gupta

Member-Secretary : Dr. P.N.V. Kurup

The former Scientific Advisory Boards met once and the reconstituted Scientific Advisory Boards also met once during the year under report. The Boards reviewed the working of various Institutes/Centres/Units under their purview. Certain measures of improvement were also indicated in respect of some of the Units to streamline the research activity. The recommendations of the Boards were incorporated in detail in the record notes of the meetings.

Main recommendations are as under:—

Scientific Advisory Board (Ayurveda) :

Sixth meeting of the Scientific Advisory Board (Ayurveda) 30th May, 1972.

1. Regional Research Centres may be established at Bihar and Jammu Kashmir State by adding one Mobile Clinical Research Unit to the existing Survey of Medicinal Plants Unit functioning at Patna and Jammu respectively.

2. Regional Research Institute may be set up at Bangalore by amalgamating the existing Units of the Council functioning in Mysore State.

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3. Two Centres for training the Allopathic Drug Inspectors may be started one each at Bangalore and Ranikhet.

4. Two more Chemico-Pharmacological Screening Units for studying the antifertility activity of certain indigenous drugs may be established.

5. An Institute of Pharmaceutical Research may be started at Ranikhet.

6. Department of *Shalya* may be established at Central Research Institute (Ayurveda), Patiala by utilising 25 beds of the Institute.

7. An animal house may be established at Haffkine Institute Bombay.

8. Possibility for establishment of a few more Musk-Deer Centres may be explored.

9. The discontinuance of the Literary Research Units and Drug Standardisation Research Unit functioning at Varanasi and Poona respectively were suggested.

10. The Literary Research Units and Collection of Source Materials Units may be gradually dispensed with and the Documentation Section may be strengthened to take up the work of the above Units. The Collection of Source Material Unit should complete the work by the end of 1972-73 and the staff be added to the Documentation Section of the Council. The Board also recommended creation of additional posts with a view to facilitate coordination of the working of various Units.

11. Toxicity studies of the drugs which have shown promising leads may be undertaken.

12. The Journal of Research in Indian Medicine may be shifted to Headquarters with a view to streamline the publication work.

13. The staff of the Units/Enquiries who desire to pursue Post-Graduate studies have to work as Research Fellows and not as full-time employees.

14. Programmes of studies of various Units were considered and finalised.

15. The Board recommended the publication of Sarabhendra Vaidya

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Ratnavali and Satashloki of Avadhna Saraswati edited by the Literary Research Unit, Thanjavur.

16. Preliminary Standardisation of Drugs/formulations included in the official formulary should be completed within one year.

17. It was decided that suitable terms for various organoleptic charcters described in the standardisation programme may be adopted.

18. Holding of a Seminar at Delhi with a view to provide an opportunity for free exchange of ideas and results of the research among the Scientists and research workers was recommended.

Seventh Meeting of the Scientific Advisory Board (Ayurveda) — 28th March, 1973.

1. Evaluation Committees were constituted and the Board recommended that detailed scrutiny of the working of various Unit may be done by the above Committee.

2. Establishment of a Mobile Clinical Research Unit at Ladakh and strengthening of Chemico-Pharmacological Screening Unit for contraceptive agents at Bhubaneswar were recommended.

3. An Enquiry may be set up for the study of Ashtadasa Samskara of Parada.

4. The Documentation Section should remain only as a part of the Headquarters and may be expanded to provide basic material to research Units. A Panaprint machine may also be purchased.

5. The Dhanwantari Mandir, Ratangarh may be taken over by the Council and possibilities of shifting the Regional Research Institute, Jaipur to Ratangarh may be explored.

6. The Institute of History of Medicine may be renamed as 'National' or 'Indian' Institute of History of Medicine.

7. The procedure to be followed in dealing with claims of cure of diseases were considered and finalised.

8. The Board constituted Sub-Committees for screening projects/ schemes.

9. The Board favoured reporting of the activities of the Units of Ayurveda in the Annual Report as a separate section.

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10. The Board felt that the allocations/resources should be provided consistent with the availablity of man-power in various disciplines and their capacity for judicious utilisation of the resources. These aspects should be of paramount importance and greater concern than the parity in the allocation of funds among the different systems.

Scientific Advisory Board (Yoga) :

Fifth meeting of the Scientific Advisory Board (Yoga)— 27th July, 1972.

1, The meetings of the Scientific Advisory Board may be held quarterly in future.

2. The minutes of the meeting may be circulated to the members within one month.

3. A post of Assistant Director (Yoga) may be created in the Headquarters of the Council.

4. Additional staff was recommended for the Research Scheme implemented at Delhi Yoga Sabha, Delhi.

5. The Research Scheme on Blood Pressure, coronary heart diseases and peptic ulcer may be implemented at Shivanand Matha, Gauhati.

Sixth meeting of the Scientific Advisory Board (Yoga) - 26th March, 1973.

1. The word 'Yoga' may be included in the name of the Council.

2. The Documentation Section of the Headquarters may be strengthened with additional staff for Yoga.

3. A Pilot Mobile Clinical Research Unit may be established and attached to Central Research Institute (Yoga).

4. The Board recommended the implementation of the research scheme on Gastro-intestinal diseases based on Yoga at Divya Yoga Samajam, Nellore.

5. Two Central Research Institutes for Yoga may be set up one during 1973-74 and another during the Fifth Plan.

6. The functioning of the various Units was reviewed and an Evaluation Committee was constituted to consider the working of the Units in detail.

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7. There should be a separate section for Yoga Research in the Annual Report of the Council.
8. The diet schedule of the Yogic Institutions was finalised.
9. The Board recommended additional grants for Viswayatan Yogashram, New Delhi for 1972-73.
10. The Board resolved that the financial assistance should be given for research in Yoga only from the provision made for Yoga in the budget of the Council.

Scientific Advisory Board (Unani)

Fourth meeting of the Scientific Advisory Board (Unani) - 29th and 30th July, 1972.

1. The Survey of Medicinal Plants Unit, Jummu should complete the work in Jammu region before moving to Srinagar.
2. The Board recommended the strengthening of the Unani section in Institute of History of Medicine.
3. The working of various Units was reviewed and the future programmes finalised. Creation of additional posts in the Central Research Institute was recommended.
4. The implementation of the following schemes during the Fourth Plan was recommended.
   (1) One Clinical Research Unit at Allahabad
   (2) One Clinical Research Unit at Bangalore
   (3) One Clinical Research Unit at Srinagar
   (4) One Literary Research Unit at Hyderabad
   (5) One Central Research Institute at Delhi
5. The Board also recommended the research schemes in Unani to be taken up during the Fifth Five-Year Plan.

Fifth meeting of the Scientific Advisory Board (Unani) - 26th March, 1973.

1, Sufficient funds may be allotted for implementation of various research schemes under Unani System.
2, The Drug Standardisation Research Unit at Delhi may be strengthened by making it a full Circuit for standardisation of raw drugs, finished products and method of manufacture.

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3. The Board also recommended the implementations of the following schemes :—

   (i) Two Survey of Medicinal Plants one at Aligarh and Hyderabad.

   (ii) One Composite Drug Research Scheme Circuit at Delhi.

4. Additional funds over and above the approved pattern were recommended for the purchase of essential equipments for the Pharmacological Research Unit at Aligarh.

5. Candidates possessing G. C. I. M./L. I. M. certificates or equivalent may be appointed as Pathologists in the Clinical Research Units in view of paucity of persons with requisite qualifications coming forth.

6. Working of various Units was reviewed. The Board constituted Sub-Committees for Literary Research, Clinical Research and Drug Research.

7. Maintaining of *status-quo* in preparation of Annual Report of the Council was also recommended.

Scientific Advisory Board (Siddha) :

Fourth meeting of the Scientific Advisory Board (Siddha) - 22nd July, 1972.

1. A Scholar well-versed in the preparation of Siddha medicines may be associated as Pharmacist in the Central Research Institute (Siddha) and the technical staff trained under him.

2. The claimants may be associated in the preparation of drugs whenever individual claims are taken up for study.

3. The activities of various Units were reviewed and their future plan of work discussed.

4. The programmes of research in Siddha System of Medicine during the Fifth Five-Year Plan were finalised.

Fifth meeting of the Scientific Advisory Board (Siddha) - 29th March, 1973.

1. The medicines required by the Clinical Research Unit may be prepared at the Central Research Institute (Siddha) and supplied to the Unit.

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2. Honorary Consultant (s) may be appointed to Central Research Institute (Siddha) for different disciplines.

3. All Survey of Medicinal Plants Units should have experts in Ayurveda, Siddha and Unani at the level of Assistant Research Officer. The Board also recommended creation of certain posts in some Units.

4. In view of dearth of qualified Siddha Scholars, persons beyond normal age limit may be considered for appointment on fixed remuneration on contract basis for a period of 3 years at a time.

5. The G.C.I. M./L. I.M. qualified persons who are D.M. & S. or have any other modern medical qualification may be appointed as Pathologist in view of non-availability of qualified Pathologists and they may be trained under the Pathologists of Medical College who may be appointed as Honorary Pathologists.

6. A full Circuit for Drug Standardisation was recommended. It was also decided that preliminary standards of the formulations included in the Siddha Formulary may be worked out by the Drug Standardisation Research Units.

7. Certain manuscripts edited by the Literary Research Units were considered and recommended for publication.

8. The progress made by various Units was reviewed.

9. Sub-Committees for Literary Research, Clinical Research, Drug Standardisation Research and Screening of recipes were constituted.

10. Maintaining of *status quo* in the preparation of Annual Report was recommended.

11. It was decided that all individual claims should be referred to Central Research Institute (Siddha) and further investigation carried out if there is a *prima facie* case.

12. The Board was also of the view that distribution of resources can be done only based on the ability to utilise the same judiciously.

Scientific Advisory Board (Homoeopathy) :

Sixth meeting of the Scientific Advisory Board (Homoeopathy) - 19th July, 1972.

1. The Project Officers may be paid honorarium ranging from

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Rs. 300/- to Rs. 500/- per month and they may be asked to devote at least 3 hours daily in the research programmes of the Unit.

2. Remuneration at Rs. 75/- per month may be paid to the Drug Provers in the Drug Proving Scheme with a view to give sufficient incentive to present themselves regularly for conducting the experiments on the desired lines.

3. The provision of payment of honorarium to the Consultants may also be enhanced from Rs. 4,000/- per annum to Rs. 6,000/- per annum.

4. Maximum number of provers may be selected from the student community. It was also recommended that new drugs may be taken up for proving particularly in Institutions in which clinical work is being conducted like Central Research Institute (Homoeopathy).

5. A Literary Research Unit in Homoeopathy may be started separately or in the Regional Research Institute (Homoeopathy) Delhi.

6. The Board recommended the creation of certain additional posts in Central Research Institute (Homoeopathy), Calcutta.

7. Experimental cultivation of Homoeopathic medicinal plants may be taken up in the existing farms of the Council and these may be strengthened by posting Homoeopathic personnel when the work load increases.

8. The programmes of research in Homoeopathy during the Fifth Five-Year Plan period were finalised.

9. The functioning of various Units was discussed and reviewed.

10. The Board recommended to amend the rule for allowing the Non-Practising Allowance to 'two years clinical experience' instead of 'two years research experience'.

Seventh meeting of the Scientific Advisory Board (Homoeopathy) - 27 th March, 1973.

1. The Project Officers may be paid at least the actual conveyance charge for attending the work in the Units functioning under them.

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2. The Board recommended the creation of additional posts for Homoeopathy in Documentation Section of Heaquarters and Institute of History of Medicine, Hyderabad.
3. An Enquiry may be set up at Poona to study the effect of ultrasonic wave therapy for cases of Poliomyelitis along with Homoeopathic medicines.
4. One Research Institute may be established at Kuruchi Campus by amalgamating the Units functioning at Athurashraman Homoeopathic Medical College, Kottayam and Belgaum Homoeopathic Medical College, Belgaum.
5. The Clinical Research Unit sanctioned at Bhubaneswar may be transferred to Patna.
6. The effect of injection and oral administration of Homoeopathic drugs may be studied at Central Research Institute (Homoeopathy).
7. The Board recommended the execution of various research schemes through the Council's own Institutions with a view to enlarge the sphere of research activities. In this connection amalgamation of certain Units was also recommended.
8. While preparing the Annual report of the Council, individual representation to the work done by the Units under each discipline may be given.
9. The entire programmes/projects have taken into consideration the aims and objects of the organisation and as such there is no point in collaboration which may not be of benefit to the system of medicine and organisation.

ANNUAL ACCOUNTS
1972 - 73

The audited statements of accounts viz (i) (ii) & (iii) of the Council for the year 1972-73 are annexed to this report.

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Research Institutes/Enquiries/Units

In pursuance of aims and objects of the Central Council for Research in Indian Medicine and Homoeopathy, and considering the immediate requirements of Gove rnment of India and Nation's health, the Council has devoted its attention towards Drug Standardisation and Drug Research as an activity of priority. Drug Standardisation and Drug Research though fall into the realm of basic medical research, yet have great impact on the applied research that has been taken up by the Council. The research on fundamental doctrines and literary research have also been assigned due importance, as any research basically has to revolve around these. The various activities of the Council are broadly categorised under Central/Regional Research Institutes/Centres, Research Units and short term Enquiries for effective organisational and administrative purposes.

Institutes/Centres

Central Research Institutes carry out research in the hospital and laboratories on a wide range of problems of basic and applied nature. The basic research undertaken by the Institute will enable to understand the physiological mechanisms as well as elucidation of fundamental principles and their applications in terms of diseases. Medical science can no longer be considered as merely a science dealing with diseases and their terms but as a knowledge that is incidentally and essentially moulded to the changing pattern of society, methods of living, needs and demands. It is perhaps more appropriate to call it as a medico-social science and naturally planning of research has also to take into account the economic and other structures that have impact on humanity. The Indian Systems of Medicine, Yoga and Homoeopathy have laid stress on preventive aspects and maintenance of positive health. The Centra Research Institutes and other similar set-ups only can effectively look into these aspects while conducting research on selected problems of national importance, Institutional approach has distinct advantage in view of the availability of facilities for multidisciplinary studies. There are facilities for basic and applied research on various problems relating to health and diseases.

The Central Research Institutes will also assist in achieving the following objects:

1. To find out improved, cheap and effective remedies for prevention and cure of various ailments.

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2. To provide training to the technical personnel of the various research units functioning under the Council.
3. To assess the efficacy of the 'claims of cure' made by different individuals and Institutions.
4. To advance the art and science of system of medicine keeping in regard the principles and concepts laid down in the system.
5. To interpret the concepts of the different systems of medicine in the light of the modern available knowledge.
6. To undertake research on various clinical problems and on special therapies.

Survey of Medicinal Plants Units, Fact Finding Mobile Clinical Research Units and Family Planning Research Units are attached to the Central Research Institutes or Regional Research Institutes/Centres based on their location. The objects of these Units are the same as other similar Units even when merged.

Herbarium, Garden and Museum

'Drug Research' demands supply of authentic and genuine drugs. It can be possible only when the workers have knowledge about biological and geographical source. It is not always possible to obtain drugs and it is likely that certain drugs may become rare to get. To obviate this kind of situation Jawaharlal Nehru Ayurvedic Medicinal Plants Garden, Herbarium and Museum are being developed as an experimental demonstration garden, herbarium and reference museum. Introduction of medicinal plants and development of garden into the demonstration garden is one of the aims and objects of this project. The herb garden collects herbarium specimens and also takes necessary steps to maintain a museum with the drugs. Herbs to be grown in the herb garden include the market samples of drugs. Another problem of national importance that is assigned is cultivation of import substitutes. Experimental studies conducted in this regard will provide technical know-how for large scale cultivation of commonly used plants as well as plants with commercial potentialities.

Survey of Medicinal Plants

The Survey of Medicinal Plants Units are engaged in systematic survey, which includes identity, collection and supply of medicinal plants besides actually locating the zones where the particular drugs are available. It may not be always possible to get sufficient quantity of drugs whenever needed, and to obviate the inconvenience to research

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worker and to step up supply position, cultivation of herbs which are in great demand are also taken up.

Important drugs which have commercial value are also cultivated. The drug cultivation programme helps to improve the yield and permits regular and constant supply of pure and genuine drugs.

Survey occupies a pivotal position in the field of drug research which is considered to hold the key of present era.

India has a long tradition of scientific use of vegetable drugs. The country abounds in medicinal flora and to comb this wealth, a number of Survey of Medicinal Plants Units have been established during the last and previous years in various States of the country.

The objects of the survey are :

1. Assessment of the distribution and extent of availability of medicinal plants finding use in the indigenous systems of medicine generally with special emphasis on the plants enumerated in various treatises.
2. Collection of herbarium sheets of various medicinal plants.
3. Collection of medicinal plants for transplanting in medicinal plants garden.
4. Collection of green specimens, seeds and other plant materials in sufficient quantities for investigations in different Units.
5. Collection of plant material for pharmacognostic work on medicinal plants.
6. Collection and compilation of data on occurance, habit, habitat etc.
7. The survey teams will, in addition, be on the look out for material of medicinal value belonging to animal and mineral kingdom.
8. The Units will also collect information on the various folklore claims and also take steps to identify them.

While emphasis is laid on the activities enumerated above, the survey parties also look out for collection of (i) medicinal plants mentioned in official pharmacopoeias (ii) industrial plants (iii) wild varieties of cultivated items (iv) rare and unusual plants.

In short, the maximum possible advantage that can be obtained in adding scientific knowledge is the aim all along the tour.

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Pharmacopoeial Standards

The Government of India constituted Pharmacopoeial Committee to prepare official formularies of Indian Systems of Medicine and Homoeopathy. A pharmacopoeia is a book of standards and will have to give physical characteristics, microscopic and organoleptic features of plant materials as well as compound formulations. In view of the controversies in the iden:ity of medicinal plants referred to in the classics, it has been considered necessary that there should be a pharmacognostic study keeping regard to botanical knowledge available in India. This helps practitioners and pharmaceutical industries in choosing authentic drugs.

There is also a need for standardisation of the method and processes of manufacture stage by stage.

The classics give a formula for a unit quantity only which once used to be prepared by the physicians themselves or under their personal supervision. With the present trends towards commercialisation and the mass manufacture, there is no guarantee that the proportion of individual drugs in the required quantities is being maintained. There is also a need to coorelate the transformation of the medicinal preparation at the different stages of manufacture as well as the heat values that should be employed at different stages. The standardisation of the methods and process of manufacture stage by stage will, therefore, have to be taken into account by normal process of manufacture for a unit quantity as described in the classics and the mass manufacture resorted to presently.

Standardisation of the finished product is also of vital necessity to ensure giving data in regard to organisation characteristics and chemical circumstances. During the past years the Council has established a number of Drug Standardisation Research Units and three Preliminary Standardisation Units.

In view of the application of Drugs and Cosmetic Act, 1940, as amended in 1964 which has been recently notified, it has been decided that preliminary standards are to be worked out for formulation entering the official pharmacopoeia. To make the implementation effective, the Council has taken steps to impart necessary orientation training to allopathic drug inspectors of different States.

Composite Drug Research Scheme

The Composite Drug Research Scheme functioning under the Council is engaged in study of a few currently used drugs on priority basis.

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The study is made from four different angles namely clinicial, pharmacological, chemical and pharmacognostical. The scheme envisages an effective collaboration between scientists of various disciplines. To accomplish the objective envisaged the modern team of the Clinical Unit visits regularly the Ayurvedic Institute to examine the patients admitted into the research wards with a view to assess the therapeutic value of the drug. The effective control over the botanical identity of drugs selected is achieved by association with the Pharmacognosy Unit. The fractions of the drug required for pharmacological screening and clinical trials are supplied by the Chemistry Unit.

The selected drugs are distributed to various circuits and tried in the Clinical Research Units in the beginning to have a preliminary assessment of the effect of these drugs in controlled conditions. The chemical study and pharmacological screening of the drugs are undertaken by concerned Units when the preliminary trials indicate any therapeutic response. The fraction of the drug which is most potent in its action is isolated by the Chemistry Unit in collaboration with the Pharmacological Unit of the Circuit. Toxicity studies (both acute and chronic) are also undertaken. If the drug is found non-toxic it is again taken back for detailed screening. The chemistry unit studies the structure of the isolated fraction found potent. The structure of the plant together with changes in the content of the active principles depending on ecological variations are studied by the Pharmacognosy Unit of the Circuit. The Pharmacology Unit of the Circuit studies general pharmacological profile and also the specific effect of the drug on various biological system and the mechanism of action together with toxicity studies.

At the end of the study in this manner a potent drug collected under controlled conditions, with known chemical configuration and pharmacognostic characteristics emerges.

Toxicity and confirmatory studies

The isolated active principles supplied by Extraction Units and drugs are being studied for their toxicity as well as for confirming the alleged therapeutic potentiality.

Drug Proving

Homoeopathic Drug Proving is a process of experimenting with drugs on the healthy human beings for ascertaining positive effects of drugs on human individuals. Many of the methods available in the Homoeopathic Pharmacopoeia provide material relating to drugs found elsewhere and

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as such it is considered that drugs that are available in this country need detailed study with reference to their characteristic action and medicinal effects on the human systems. Steps are being taken to collect through Drug Proving Schemes all symptoms without overlooking even the least symptoms so that a fairly comprehensive picture may be available with regard to indigenous drugs. Drugs which were taken on empirical basis in the Homoeopathy are also being tried to obtain rational explanation so as to include them in the Pharmacopoeia.

Family Planning

The Central Council for Research in Indian Medicine and Homoeopathy has taken up the problem of trial of Family Planning recipes under the research programme. The Expert Committee which went into the subject selected a few recipes on priority basis for conducting clinical trials of these selected recipes with regard to the contraceptive potentiality.

The clinical trial among others calls for motivation since the Family Planning Research is a medico-socio-economic programme and studies have to be conducted for over a reasonable time, say ranging between three to five years. There are quite a large number of factors to be considered before declaring the outcome of research or arriving at any conclusion. Besides the study of the fact over a fairly reasonable period, it is also necessary that a large population also is to be included in such study. Of course, in all these studies, it is to be ensured that the persons concerned do not resort to other known or established methods of Family Planning. Definite conclusions can be drawn after considering these factors when statistically viable data are available.

Keeping in view the national importance of the problem and the need for rapid development of an effective and safe contraceptive, it was considered necessary that a few rapid screening methods are evolved. With that end in view, the Council established five Chemico-Pharmacological Screening Units which would make chemical studies as well as animal experiments with regard to antifertility potentiality of the drugs. It is considered that this screening process will provide a lead in the direction of contraceptive studies that could be undertaken at clinical level.

Clinical Research

Clinical Research helps in the elucidation of the fundamental principles and their application in the treatment of various diseases. It

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covers research into the mechanism of causation of disease, of its prevention and cure.

Classics of Indian Systems of Medicine, Yoga and Homoeopathy are replete with reference to diseases. In the absence of proper elucidation of these methods and principles physicians of Indian Systems of Medicine, Yoga and Homoeopathy are presently being forced to diagnose diseases on *a priori* considerations. In some cases diagnosis of the disease is being made on the basis of data collected by the use of modern methods and techniques and the diagnosis thus arrived at fully represents the disease as envisaged in the treatises of these systems.

The disease should be investigated in terms of concepts and doctrines enunciated in Indian Systems of Medicine, Yoga and Homoeopathy and on the basis of the description in the works of Indian Medicine, Yoga and Homoeopathy for a proper understanding of the mechanism of its onset. It is, therefore, incumbent that different aspects of the clinical examination of the patient and the disease should be investigated thoroughly. The clinical research clarify the lines and methods of diagnosis and treatment of diseases as mentioned in the works of Indian Medicine, Yoga and Homoeopathy and also should help in critical appraisal of the theory of pathogenesis, symptematology, clinical methods of diagnosis and prognosis, principles, lines and methods of treatment and the drug and diet therapies particular to Indian Systems of Medicine, Yoga and Homoeopathy.

In view of the importance attached to the clinical research, the Council established Clinical Research Units and short-term Clinical Enquiries.

During the current plan period the Council established Fact Finding Mobile Clinical Research Units in the different parts of the country. The activities of these Units cover the following items :

1. To study the nature and frequency of prevalent diseases, if any, in the villages under observation.
2. The standards and types of treatment available to the rural population of the area including Ayurveda, Unani, Homoeopathy, Allopathy and folk medicine.
3. Maintenance of contact with the village Vaidyas, evaluation of their contribution to the health service of the villagers dependent

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on them and refreshing and improving their knowledge through correction and guidance.

4. Studying and creating ways and means of prevention of diseases and of maintenance of health and improvement thereof to ensure longevity and improved productive expansion of physical and mental energy.

5. To study the relation between the food habits and the incidence of disease in the areas under survey.

6. To assist the Family Planning Research Uuit whenever necessary if a Family Planning Unit is functioning in the State.

7. To also incidentally cater medical relief.

8. To collect the folklore claims that are prevalent in the zone of operation of the Unit, and to take steps to identify. The method of administration and other relevant details are to be invariably collected to the extent possible.

9. To make a general survey of medicinal plants available in the areas visited.

Literary Research

Literature related to Indian Systems of Medicine is scattered in private and public libraries and at times not within the reach of scholars and research workers. Quite a number of manuscripts are available in various libraries, but the details are hardly available. Some libraries have palm leaf manuscripts and the valuable information therein had to be obtained before they get destroyed due to passage of time. Some manuscripts are as old as three or four centuries and the responsibility rests on reputed scholars of today to get the full information contained therein.

Further, there has been a handicap in the field of education due to lack of standard text books dealing with various subjects described in Indian Medicine.

The scholars who can understand and interpret the concepts laid down are also becoming fewer and fewer.

To get full advantage of the rich experience of scholars and to get all the valuable data of Indian Systems of Medicine and to have standard text books, the Council has taken up the project of literary research.

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The projects will bring to light in understandable form, the medical knowledge of the country.

The work relating to collection of source material is entrusted to reputed scholars and their work is considered to provide information of value to teachers, research workers and other interested in Indian Systems of Medicine.

Documentation

The Council has a Library having a 'documentation section' and a 'photographic wing' to facilitate the research workers. This section documents the information available on a particular subject in various works and assists the research workers. The Council helped in the preparation of the herbarium sheets brought from Bhutan and in the preparation of a monograph on Bhutan flora here.

The section is also engaged in obtaining details relating to the books referred to in the first schedule of the Drugs and Cosmetics Act of 1940. The Library has classified about 3, 000 books. The various Journals have been obtained either by subscribing to them or on exchange basis The photographic wing has preparaed about 550 projection slides and 1,290 photostat copies. More than 2,957 pages were microfilmed and about 1,650 charts/diagrams were prepared.

Institute of History of Medicine

Historiography is the youngest discipline in the modern progressive medicine. Today, more than ever, there is necessity for interpretation and evaluatian of the past of medicine. The knowledge of history helps to see the concepts, theories and doctrines of various branches of medicine as products of their time in their cultural setting. It will help the present worker to know how logical it was and how workable it was. During the course of study, it will be observed that history remembers many names and has forgotton many names. Historians have one advantage and that is they are able to look at various events and works from a distance and to examine, interpret and evaluate them.

The Institute of History of Medicine of the Council is engaged in studying the various problems of medical history. Primary and secondary source material are being utilised for the ancient, mediaeval and modern periods for the reconstruction of history of medicine in India based on archaeological, epigraphical, historical and literary sources. The printed and manuscript sources of medical and allied literature available

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in the country and outside are also examined to picturise the interrelations of medicine in India with the origin, early stages and the development of the art and practice of medicine in other ancient and mediaeval civilisations in the world.

The research conducted here provides a new vista of historical perspective to the workers besides stimulating some of the interested research workers to make similar studies in their own special branches. The work of this Institute will help scholars, scientific workers and research minded historians to appreciate that medicine is like a flowing perennial river with its numerous tributories with reciprocal influence on different contemporary medical systems and other disciplines of each age.

Conferences and Seminars

The Council has among its aims and objects the propagation of knowledge and experimental measures generally in connection with the causation, mode of spread and prevention of diseases besides initiating, aiding, developing and coordinating scientific research into different aspects, fundamental and applied of the Indian Systems of Medicine and Homoeopathy and Yoga. The first Scientific Seminar of the Council has been able to achieve this objective. The subjects discussed broadly covered drug research, clinical research and literary research. An exhibition depicting the various aspects of evolutionary trends and its imp ct on the contemporary medical science together with work done in fields-drug research, clinical research and literary research.

Journal/Publications

The quarterly Journal of Research in Indian Medicine is being published by the Council and it projects the various research activities of the Council. The scope and concept of research in Indian Medicine, Yoga and Homoeopathy have considerably developed during the past decade or so and further there has been a tremendous impact on research due to developments in the contemporary fields of science and technology. The Journal of Research in Indian Medicine forms an effective forum for activities. This has been converted to a quarterly journal during the last year to meet the scientific needs and demands. Bulletin of Institute of History of Medicine is being published quarterly by the Institute of History of Medicine of the Council. The Bulletin highlights the research done on medico-historical and medico - social problems and also publishes English translation of classics. Pictures of rare books and manuscripts are also published in the bulletin. The Council is also publishing monographs on different subjects based on the research work.

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OBITUARY

The Council lost an eminent Scientist and an enthusiastic research worker in the sad demise of Prof. N. S. Warrier in the month of December, 1972. He was associated with chemical study of natural products used in Indian Systems of Medcine.

The Council has become poorer by sudden expiry of Dr. S. A. Subhan, member of First Scientific Advisory Board (Unani) in the month of January, 1973.

The Council places on record their gratitude for valuable guidance as well as service rendered by them for furtherance of objectives of the Council.

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Acknowledgements

The Directorate of the Council places on record its deep appreciation of the services rendered by the present and past members of the Governing Body, Executive Committee and different Scientific Advisory Boards and extend its deepest sense of gratitude to them for the valuable assistance, guidance and continued support given by them to the Council in the conduct of its work.

The Council owes a debt of gratitude to the Scholars and Scientists who accepted the invitation of the Council to serve as members of its Advisory Committees and gave their whole hearted cooperation and assistance in the evaluation of research scheme.

The Council thanks the Seientists who assisted the Council in the selection of scientific workers for the various research projects.

The Council avails this opportunity to convey its profound thanks to the Government of India for their continuous support, helpful attitude, and cooperation which helped the Central Council for Research in Indian Medicine and Homoeopathy to pursue satisfactorily its activities in the field of research.

The Council records its debt of gratitude to the Officers—in—Charge and Project Officers of the Research Units for their high sense of responsibility and the helpful suggestions given by them.

The Council expresses its sincere thanks to Shri Uma Shankar Dikshit, former President of the Council for his guidance and leadership in the development and progress of the Council.

The Council thanks Shri D. P. Chatopadhyaya, former Senior Vice President, Shri K. K. Dass, and Shri R. N. Madhok, former Vice Presidents for their keen interest in the research activities of the Council. The Council also thanks former members of Governing Body, Shri S. R. Mehta and Shri A. K. Sen.

The Council is thankful to the Chairman and members of the Scientific Advisory Board of respective systems of medicine who have guided the programmes in the respective systems from time to time.

The Council hopes to expand its field of research as well as concentrate the activities of the research in Institutes/Centres/Units and Enquiries functioning under the Council. In this great task the Council looks

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forward with confidence to the continued support and interest of the President, Vice-President, Members of Scientific Advisory Boards and Scholars and Scientists spread all over the country directly or indirectly connected with the Council. Thanks are also expressed to the various host institutions that are associated in the research programme of the Council.

The expansion in the activities of the Council has increased the work load on the staff and the staff discharged their responsibilities ungrudgingly and commendably. The Council records its appreciation for the sincere service rendered by the Officers and Staff of the Central Council for Research in Indian Medicine and Homoeopathy and for the cooperation extended by them.

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Ayurveda

The Central Research Institute at Cheruthuruthy has an out-patient wing and an in-patient section. About 21,500 patients were seen in the out-patient section and 183 patients in the in-patient department. The diseases commonly met within the out-patient are *jwara, vata vikara, vatarakta, kasa, atisara* and *granthi, udara, shofa, pradara. krimiroga, shula, gulma, swas. twakroga, mutra sambnandhi vikaras netra rogas* and other minor clinical conditions. The Institute has taken up *vata* and *vatarakta, granthi* and *arbuda* group of diseases, *visha chikitsa* and *panchakarma chikitsa.* The work in the out-patient department is given a research slant so that ambulatory conditions may also be taken up for studies. One or two coded drugs are given a trial in the out-patient department in cases of skin diseases. The response in most cases in in-patient has been very encouraging. In all cases, the line of treatment is planned after considering *prakriti, doshasvabhava, sthanasamsraya* and other factors indicated in classical works. Among the cases of *vatavyadhi* the Institute treated cases of *Balavatam* using the following method are also included.

1. *Ashtavarga kwatham* — 30 ml.)
   Dhanwantara tailam — 10 drops) 7 a. m. & 5 p.m.
   (41 times fortified))
2. *Ashwagandharishtam* — 15 ml.) 1 p. m. & 8 p. m.
   Gorochanadi gutika — one.)
3. *Kottamchukkadi Tailam* for *Abhyanga* on alternate days.
4. Massage with a *lepana* of *godhoomam* (wheat) and *masham* boiled in milk—daily.

Cases of *pakshaghata, apabahuka* and *ardita* etc. also showed encouraging response. In cases of *pakshaghata* where *madhumeha* is also associated, *Ponkoranti* (*Salacia oblonga*) is used. *Salacia oblonga* showed lowering of blood sugar levels. *Bhoonimba* (*Andrographis paniculata*) appeared to be helpful in reducing acetone bodies in diabetic patients.

The Institute is maintaining a Pharmacy section so that medicines required for daily use in out-patient and in-patient are prepared. Medicines required for the Mobile Clinical Research Unit are also supplied from this Pharmacy.

Biochemistry Department of the Institute is engaged in clinical

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biochemistry of the various conditions chosen for research besides investigating single drugs that are widely used in the diseases taken up by the Institute. Chemistry of *Vitex negundo* and *Putranjiva roxburghii* has been worked out.

The Pharmacology section of the Institute has taken to studies on *Valeriana wallichii, Asteracantha longifolia* and *Curcuma zedoaria*. Antifungal activity of *Asteracantha longifolia* has also been studied.

The Mobile Clinical Research Unit which is part of the Institute, has been surveying the incidence and course of various diseases in selected villages as well as the diet and other habits. They have also taken up problem of *sweta pradara* for detailed study. *Gokshura modaka* in dose of 5 gm twice a day has shown promising response. Another clinical entity taken up for detailed study is the effect of *Gudapippali* and *ativishadi churna* in *Udarakrimi*. The Mobile Clinical Research Unit during the course of activity also made a general survey of locally available plant wealth. The Institute has undertaken transcribing of *sahasrayoga*. During the course of work, a number of available editions and versions have been examined.

The Central Research Institute at Patiala is studying the following clinical problems :

1. Role of *Yogarajaguggulu* and *Rasna saptak kwatha* on *amavata*.
2. Use of *Shwasa kesari*, a coded drug in T*amakswasa*.
3. Treatment of *Medoroga* with *Guggulu*.
4. Treatment of *Sweta pradara*.
5. Treatment of *Kashtarthava*.
6. Treatment of *Vandhyatva*.

In the study of *amavata*, two groups of drugs i.e. *Yogarajaguggulu* and *Reasnasaptak kwatha, alumbushadi churna* and *alumbushadi kwatha* have been chosen. With both trials varying degrees of improvement have been observed and this data could be considered to provide a lead regarding the effectiveness of the therapeutic approach. This study has to be continued for a longer period on a large number of patients with a regular follow-up so that statistically viable data to assess the response may be available.

The study on the treatment of *tamakswasa* is in initial phase. The study is being made keeping in view the aetio-pathogenesis described in

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Ayurveda along with currently available techniques and investigations. The record of dietetic and other habits is maintained so that the patients could be suitably advised on the prevention as well as well-treatment.

Another problem on which the Institute is conducting studies is *Medoroga*. The results of treatment with *Guggulu* are being evaluated periodically. In these cases, follow up being an important element, conclusions can be drawn only after a fair amount of study involving a large number of cases for a long range of time is made.

The Institute has made interesting observations while studying the effect of *pushyanug churna, pradarantak lauh, ashokarishta, chandraprabha vati* and *pradarari churna* in cases of *sweta pradara*. The cases have been divided into two groups using certain selected preparations. The disease is found to be common in the age group of 20-40 years and persons belonging to *vata pitta prakriti* are more prone to this disease.

The patients with *kashtartava* showed improvement with preparations like *rajahapravartini vati, pushyanug churna* and *prataplankeshwar rasa*. The appropriate preparation to be tried has been chosen after making careful and thorough investigation. In certain cases, douching with medicinal preparations was also done. The respense has been encouraging from the information avaiable from a small number of cases.

Vandhyatva has been taken up as one of the subjects of studying. *Phalaghrita* is administered internally along with *uttra vasti* with special preparations. The special treatment was commenced after thoroughly investigating the cause of *Vandhyatva*. The treatment is started with therapeutic regimen shown above. Administration of treatment for a very long period is a necessity in this condition. The number of cases so far studied does not help to draw any conclusion. Further work, however, is needed.

The Pharmacology department has taken to experimental studies on arthritis using *Yogarajaguggulu*. The work is basically a pilot study and further work is considered necessary.

The Mobile Clinical Research Unit of the Institute has been helpful in obtaining data relating to living conditions, socio-economic status, dietetic habits as well as disease incidence.

The Family Planning wing of the Institute has been studying the contraceptive potentiality of *Talisadi yoga*. It is not possible to pronounce

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its role in the field till a viable data followed up for a fairly long period is available.

Work on *swasa* is in progress both under Composite Drug Research Scheme as well as under Clinical Research programme.

Exploratory efforts relating to *ashtadasa samskaras* of *Parada* have been made and it may take time to give shape to the idea in view of expenditure involved in the programme and the budget allocation.

The Regional Research Institute, Jaipur has divided its programme broadly under two divisions namely, clinical and plants division. The clinical division has taken up to study of *amavata* and *grahiniroga*. The Mobile Clinical Rescarch Unit attached to the Institute makes a general study, survey of habits, diseases and drugs. The subject of Family Planning has also been given adequate importance for the smooth continuance of work. A number of study groups on different disciplines/ subjects have been constituted. The Survey of Medicinal Plants Unit visited forest areas of Rajgarh, Menia, Makreda, Leri. Puskhar tank area, Budha Puskhar in Ajmer, Bhim range, Bhagwada, Georam, Bhagwanpura, Bhagmar, Raoli, Hanutiya bion mines, Mangliawas *guggulu* farm, Dam area, Kamlighat etc. A large number of plant specimens were selected for making herbarium sheets. The unit has come across the source plant of *guggulu* which goes by the name *Commiphora weightii*. 500 reference cards dealing with floristic, plant ecology, soil studies etc, were made. The Unit has a museum with about 325 samples of vegetable drugs. Experimental/extensive cultivation has also been taken up. The following are few important crude drugs cultivated.

1. *Commiphera mukul*
2. *Withania somnifera*
3. *Apium graveolens*
4. *Plantago ovata*
5. *Ocimum basilicum* (French vartety)
6. *Acacia senegal*
7. *Acacia nilotica*

Amavata and *grahini dosha* were studied during the period under review. The role of *Yogarajaguggulu/Rasnasaptakakwatha* are studied. Under *grahini dosha*, the drugs chosen are *Avipattikara churna* with *Shankhabhasma/Bilwamajja* and *Hingwastak churna*.

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The Mobile Clinical Research Unit surveyed Gandhi Nagar area as part of the programme. The Family Planning programme was also undertaken by the Institute. The Survey teams of both Mobile Clinical Research Unit as well as Survey of Medicinal Plants Unit have collected the folklore claims. The Institute has completed compilation of literature on about 360 plants. The study groups have done useful work on various basic concepts and application of these in the clinical practice.

The Regional Research Institute, Calcutta is studying the role of drugs described in Ayurveda in *madhumeha*. *Jambu* and *Udumbar* has been chosen for at present. The cases of *Sweta pradara* are treated by *mayaphala* and *lodhra*.

The Mobile Clinical Research Unit has taken up *Krimiroga* and *Sweta pradara* as special problems. The areas surveyed are Dum-Dum, Dakshineswar, Tollyganj, Kalighat, Barasat etc.

The common diseases met with are *parinamashula, jwara. rajayakshma, atisara, krimiroga, sweta pradara, sheetapitta, amlapitta, panduroga etc.*

Folklore claims are collected by Mobile Clinical Research Unit and Survey of Medicinal Plants Unit during their visits. About two hundred and fifty herbarium sheets are maintained in the Institute. Survey of Medicinal Plants Unit made preliminary survey of Midnapore division.

The Regional Research Institute, Bhubaneshwar has a Clinical Wing, Survey of Medicinal Plants Unit and Fact Finding Mobile Clinical Research Unit. The Clinical Research Wing has taken *swasaroga* and *gridhrasi* as problems for study, *Swaskuthar rasa, Kanakasava,* and *Agasthya haritaki* are taken up to study their effects. The cases of *gridhrasi* are being treated by appropriate *panchakarma* treatment. The Institute is also maintaining an out-patient section to facilitate selection of suitable cases.

The Mobile Clinical Research Unit has taken up critical studies on the role of *nityananda raso* in Filariasis. The study has been conducted in Biraramchandrapur, Kapileswar, Jaula and Mundamohan. In most casas *nityananda rasa* in doses of 500 mgs with *bilwapatra swaras* before food is administered. In view of chronicity of the condition it is necessary that the study has to be continued for fairly long period with a regular follow-up on large number of cases.

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The Survey of Medicinal Plants Unit made preliminary survey of Khurda, Puri, Nayagarh, Ganjam and Dhenkanal. About 400 identified herbarium sheets are in the Institute.

Information relating to claims of folklore medicine are also gathered by both Survey of Medicinal Plants Unit and Mobile Clinical Research Unit.

The activities of Regional Research Centres which are composed of Survey of Medicinal Plants Unit and Mobile Clinical Research Unit are shown under respective programmes.

It is perhaps relevant and pertinent to provide a picture of work of the Institutions before closing this part of the chapter. Central Researeh Institute, Patlala has seen over 1,500 patients of different diseases including the problems taken up for research. Over 700 cases were cured and about 250 patients were relieved of symptoms. The Institute was able to conduct follow-up studies on about 1,150 patients in the mobile wing. Suitable cases have been admitted into wards for intensive study from the angle of etiology and pathogenesis besides for finding out suitable effective remedies. The response has been satisfactory and data suitable for interpretation is being collected.

The Central Research Institute at Cheruthuruthy has seen over 160 patients in the mobile clinical wing and about 20,000 patients in out-patient department. Suitable cases fitting within the allocated problems were selected from these and their etiology and pathogenesis were studied along with therapeutic principles.

Regional Research Institute at Bhubaneswar treated about 90 patients in in-patient department and further data has to be collected for purpose of interpretation based on the parameters/criteria chosen in the study programme. Over 6,000 patients were treated in out patient section. 14 patients of *sandhigatavata rogas* had *panchakarma* treatment and 9 reported complete relief. However, the follow-up studies are being conducted.

Regional Research Institute, Jaipur treated about 120 patients of diseases chosen for intense study i.e. *grahini dosha* and *amavata*. The therapeutic response has been encouraging.

Regional Research Institute at Calcutta treated 168 patients in the out-patient. In-patient studies will commence shortly. The Institute is in the phase of equipping suitable to chosen programmc.

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It will be observed from the foregoing that though a large number of patients attended, only cases suitable for study, and which fall within the framework of chosen elements of study in each disease have only been included; the results have been varying from partial relief to complete relief. Further data collected under controlled conditions are likely to provide a lead for drawing definite conclusions. In many cases the data seems to provide a promising lead or a tendency to relieve some or part of the troubling symptoms. However, as a measure of caution it is considered that further data viable from the angle of statistics and Ayurveda are needed before pronouncing conclusions.

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Institute of History of Medicine

The Institute of History of Medicine has laid great stress on the collection, study and analysis of source material of various types—archaeological, traditional, literary—both medical and non-medical—for history of medicine.

The check list of Sanskrit medical manuscripts has been published. Further collection of information about the manuscripts is also continued so that supplementary check list may be made available. The detailed descriptive accounts of rare and valuable works with photos and their medico-historical importance are published. The medical manuscripts in Osmania University Library and Marathi Sahitya Parishad are being examined and studied. Vaidyavallabha samhita, one of the less known works has been published. English translations of selections from Haramekhala, Anandakandam and Parahita samhita are published. Charucharya based on critical study of two palm leaf manuscripts, one paper manuscript and two printed books is given for printing.

A check list of Arabic and Persian manuscripts in the major libraries has been published, The Institute has taken up publication of English translation of some passages from treatises of Arabic, Persian and Urdu medical classics of medical and historical value. The first chapter of Al-hawi of Rhazes (published by Diratul Marif) covering about 50 pages in Arabic is translated. History of ophthalmology in Unani medical literature is being studied.

The Institute acquired the pictures on Siddhars from French Institute of Indology, Pondicherry and also charts relating to Siddha system from Director of Indian Medicine, Madras. The history of Tamil literature is also being studied with special reference to allusions to medicine. The Library of the Institute has about 3,000 books and more than 1,000 volumes of journals. The staff of the Institute undertook study tours with a view to study the rare books and old manuscripts. The Institute is maintaining a museum containing exhibits relating to history and progress of medicine. The photographic and microfilming section had copied pictures from various books for study for research workers and for the Institute. Microfilming of books and enlarging and printing them suitable for use has also been taken up.

The Institute has demonstrated that history of medicine is an inter-disciplinary endeavour to study in a scientific spirit and with the aid of

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indisputable source material, the origins and praetises for relief or cure among people and communities in different centres of civilization in successive periods of history. The activities of the Institute extend beyond boundaries of any particular system of medicine and cover all attempts to relieve suffering and prevent ill health and prolong life. The Institute carries out search for various sources and conducts studies that probe into and unravel the origins and course of evolution and variations in the medical theories and system that have taken shape during ages depending on the political, religious, socio-economical changes affecting human society.

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Drug Research

Survey of Medicinal Plants

The systematic medico-botanical survey of different forest areas/ divisions in India have been conducted by the Council during the year under review. The areas surveyed briefly are as follows:—

1. **Andhra Pradesh**

   Medak forest division, Eturnagarun and Pathal forests, Additigala forests, Kakinada division, Nallamalai forests, Nandyal, Guddalur, Mahadevpur, Kondapalli and Nunna forests, Rajahmundary and Hyderabad circle.

2. **Assam**

   North Kamrup Forest Division, South Kamrup Forest Division, Monghpough Forest Division, Kachugan Division, Pynursula Forest Division.

3. **Bihar**

   Rajgir Forest Division, Horhop, Hundru, Dasham, Gorkhu Hill. Karumgarh, Rajendra.

4. **Gujarat**

   East and West Rajpipla Forests, Bulsar Division, Dang Division, Vyara division, Chhota Udaipur, Baria Forest Division, Palanpur Forest Division.

5. **Himnchal Pradesh**

   Uhal Valley, Umba and Bharwain Range, around Jogindernagar, Daramshala, Parvati Range, Tissa Range, Dalhousi Range, Simla Forest Division, Upper Kulu Forest Range, Jogindernagar Forest Range, Pattam Valley, Shahpur Range, Mandi Forest Division, Bire Forest, Chhaprot and Galu Forest Jhintargari and Ghatasini Forest.

6. **Jammu & Kashmir**

   Srinagar Division, Batote Forest Division, Rajouri Forest Division, Bhadarwah Forest Division.

7. **Karnataka**

   Barimalai, Annappa Falls, Iynur valley, Hair pin bends, Charmadi ghats, Koteghar surroundings Aladgudda, Kaudalli, Aldur, Jayapura,

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Sringeri, Kigga, Golgondu District, Devarahakkalu, Kerekatle Road, Gangamula valley, Begur State Forests, Harihaṟapura Surroundings, Kamathi, Mudegeṟe, Koteghar Forests, Bhyrapura Forests, Tarave Forests, Magundi Gubgula estate, Bale Hole Kalasa Road, Kanthi Surroundings, Soman kad Forests, Bhagvathy valley, Kudremukh Range, Yelnir ghat Forests, Kuppe betta, Palar River, M.M. hills' Biligiri Rangan hills, Mathi, Devara gudi, Rangan tittu, Chamundi Hills Bannera ghitta, Mysore Chikkamagalur Forest.

8. **Kerala**

Kottor, Chalakudi, Kulamave, Idikki, Kattapava.

9. **Madhya Pradesh**

Gwalior Forest Division, Shivpuri Forest Division, Sheopur Forest Division.

10. **Maharashtra**

Wardha Division, Nagpur District, Kondhali Range, Ramtek Range, South Umrer Range.

11. **Orissa**

Bolangir, Khandagiri, Dhauligiri, Puri, Sambal Pur, Chandaka and Nandana kanan, Barunai, Tangi, Daspalla, Ganjam Chaudwar, Kapilash, Biradia, Tikar pad, Saptasajya.

12. **Rajasthan**

Rajgarh Forest, Menia Forest, Makreda, Leri Forest, Puskhar tank Area, Budha Puskhar in Ajmer, Bhim Range, Bhagwada Forest, Georam, Bhagwanpura, Baghmar Forest. Raoli, Hanutiya bion mines, Mangliawas Guggulu farm.

13. **Tamil Nadu**

Courtallum area, Papanasam area, Manimuthar area, Vallanadu, Swainthi patti, Gurumalai, Kavalkinar, Panakudi, Mana padu, Sunai, Muppauthal, Tuticorin, Mullakad, Hare Island, Arumugamangalam, Valliyoor, Kanya Kumari district, Ramnadu District, Madurai District, Tiruchi District, Salem District, Madras District.

14. **Uttar Pradesh**

Almora east Forest Division, Almora West Forest Division Pithoragarh North Forest Division, Garhwal North Forest Division, Garhwal south forest division, Garhwal civil, Lansdown, Haldwani,

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Tarai, Ramnagar, Tons, Yamuna, Chakrata. Uttarkashi, Western Doon, Eastern Doon, Nainital Doon, Saharanpur, Bundelkhand Banda.

15. **West Bengal**

West Midnapore division, Thargram, Midnapore,

A large number of herbarium sheets have been prepared of which 4,000 have been identified. The survey has helped in locating the zones where the particular drugs are available.

The raw drugs required by the various research Units have been mostly met by the Survey Units of the Council. The Units also supplied plant specimens and herbarium sheets to Central Indian Pharmacopoeal Laboratory, Gaziabad. Cultivation of a number of plants have been undertaken on experimental basis in various States under the Council. The following drugs that were in much demand were supplied to the various research Units:—

1. Embelia ribes
2. Tinospora cordifolia
3. Vitex negundo
4. Mallotus philippinensis
5. Mesua ferrea
6. Abrus precatorius
7. Tylophora indica
8. Clerodendron phlomidis
9. Celastrus paniculatus
10. Crataeva nurvala
11. Ricinus communis
12. Piper betle
13. Curcuma longa
14. Pterocarpus marsupium
15. Woodfordia fruticosa
16. Shorea robusta
17. Azadirachta indica
18. Cassia fistula
19. Aegle marmelos
20. Adhatoda vasica
21. Oxalis corniculata

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22. Madhuca indica
23. Hemidesmus indicus
24. Hedychium spicatum
25. Centella asiatica
26. Desmodium gangeticum
27. Chenopodium ambrosioides
28. Artemisia vulgaris
29. Rhus punjabensis
30. Tribulus terrestris
31. Pistacia integerrima
32. Rubia cordifolia
33. Rheum emodi
34. Crocus sativus
35. Atropa belladonna
36. Nymphaea alba
37. Berberis vulgaris
38. Bergenia ligulata
39. Rauwolfia serpentina
40. Semecarpus anacardium
41. Gardenia turgida
42. Sida cordifolia
43. Terminalia chebula
44. Hibiscus rosasinensis
45. Leptadenia reticulata
46. Strychnos nuxvomica
47. Terminalia arjuna
48. Cyclea peltata
49. Holarrhena antidysenterica
50. Dioscorea bulbifera
51. Valeriana wallichii
52. Mimusops elengi
53. Butea monosperma
54. Cyperus rotundus

Besides the above, a number of drugs based on the needs have also been supplied.

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The Council is maintaining Jawaharlal Nehru Ayurvedic Medicinal Plants Garden, Herbarium and Museum at Kothrud, Poona. This is being developed as an experimental demonstration herb garden and a reference museum. The problem of growing medicinal plants of different regions is being investigated. The garden is maintained by periodic silvicultural and crop garden standard procedures, viz. clearing of weeds, hoeing, manuring, irrigation etc. A number of plants of therapeutic importance that are being tried in various Institutes/Centres/Units/ Enquiries are being cultivated. Germination trials are also being made on a variety of seeds which have medicinal importance. Preparation of voucher specimens has been taken up and information available in medical works is collected. These type specimens help research workers in the process of identification of correct plants. A museum with crude drugs available in the market along with authentic specimen is being built up to help in studying and identifying the adulterants/substitutes.

Saffron Cultivation

The Council has explored the possibilities of augmenting supplies of saffron (*Crocus sativus*) from Uttar Pradesh hills. Between October, 1971 and 72, 1,08.000 corms have been planted. Experimental work has also been carried at Chamma (Tehri) farm by planting 3,000 corms. During the flowering season (October/November, 1972), 12,080 plants flowered. Different lines of approach considered helpful for augmenting the yield of saffron are being taken up.

Musk Deer Breeding

The main aims of this Project are exploration of areas of concentration of musk deer, accessibility to obtain them besides studying the habitat, and habits. It is proposed also to study the relation between availability of musk in relation to age as well as understanding mechanism of production of musk (*Moschus moschiferus*). The breeding centre has been able to collect quite a considerable amount of valuable information with regard to habitat, diet habits, movements etc. Since musk forms an important ingredient in a number of life saving drugs of Indian Medicine, efforts have been made to breed them at various snow belts at higher altitude. Areas in Himachal Pradesh as well as Kashmir area have also been surveyed to find suitable spots for the breeding of musk deer. The Council has taken up the matter with Conservator of Forests, Wild Life Preservation Organisation, Uttar Pradesh for obtaining animals. In time to come, the Council will be in a position to supply authentic musk to the medical profession and research organisations.

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The Units during survey made a quantitative assessment of the plant wealth and herbarium sheets of some medically important plants have been prepared.

The Unit incidentally also collected data relating to folklore claims. Some of the Units have been maintaining experimental cultivation gardens. The following table provides at a glance the information relating to herbarium sheets etc.

S. No.	State	Herbarium sheets	Folklore claims	Plants under cultivation
1.	Andhra Pradesh	750	53	—
2.	Assam	70	55	53 medicinal plants
3.	Bihar	250	46	—
4.	Gujarat	609	80	—
5.	Himachal Pradesh	300	21	—
6.	Jammu & Kashmir	750	50	122 medicinal plants
7.	Karnataka	298	17	—
8.	Kerala	54	123	110 medicinal plants
9.	Madhya Pradesh	220	60	—
10.	Maharashtra	262	70	45 medicinal plants
11.	Maharashtra (JNAMPGH & Museum)	300	—	31 medicinal plants
12.	Orissa	530	20	120 medicinal plants
13.	Rajasthan	110	32	Extensive Guggulu cultivation at Mangliawas. Seeds of 79 species in Index seminum. 65 medicinal plants
14.	Tamil Nadu	113	—	31 medicinal plants
15.	Uttar Pradesh	97	96	147 plants
16.	West Bengal	250	17	—

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Pharmacoepial Standards

The Drug Standardisation Research Units are mainly concerned with laying of standards for single drugs and compound formulations of therapeutic usefulness or pharmaceutical necessity which are sufficiently used in Ayurveda and also for laying of methods to be adopted in standardisation besides evolving tests for identity, quality and purity. The standardisation units have collected literature relating to the various single drugs besides studying the pharmacognosy and chemistry of these drugs likely to be of help in the standardisation. Analytical studies of various steps in the process of preparations have also been worked out. Similarly the finished products have also been analysed to provide helpful information. The work on the following single drugs has been done to a considerable extent:—

Agnimantha—Ativisha—Bilwa—Gambhari—Sariva—Indrayava — Jatamansi — Pashanabhed — Shalaparni — Chitraka—Vishamusthi — Babbula — Madhurika — Bilwa — Dhataki — Danti — Vatsanabha — Katurohini — Haridra — Kapikacchu — Punarnava Draksha — Nimba — Amrita — Gokshura — Kumari — Mudgaparni — Bala — Mamsarohini — Mocharasa — Kiratatikta — Shankhapushpi — Jeevanthi — Shathi — Kataka — Manjishta — Moolaka — Priyangu.

The following methods of manufacture have been taken up for analytical studies :—

Asavas and Arishtas — Guggulu — Parpati — Bhasmikarna— Tailam.

The finished products which were subjected to various analytical studies are as follows:—

Amritarishta—Kumariasava A & B—Draksharishta—Abhyarishta —Vasavaleha — Abhrakbhasma — Ksheerabala — Pinda taila— Swarna parpati — Agnithundivati — Ananda Bhairava rasa — Tribhuvana keerti rasa.

The various raw drugs that enter into the formulary have also been taken up for evolving standards.

In case of single drugs, pharmacognostic study of the part (s) is worked out. The common adulterants are also studied so that genuine samples could be obtained from the market. The various chemical constituents are also identified so that it will be possible to evolve chemical

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standards in addition to pharmacognostic standards. The study of single drugs has also brought to forefront the other drugs used under one and the same Ayurvedic name. In the process of manufacture of medicinal preparations, attention is paid to make analytical studies of the drugs/ substances at each stage so that for any stage, standards may be available. In case of *Asavas* and *Arishtas* during the process of analysis there appears to be variations in the analytical value of different batches of the same *arishta* in specific gravity, pH value, alcohol content, total acidity, total sugar, total reducing sugar, tannin content etc. This variation indicates that there is a need for standardisation of crude drugs as well as the processes adopted. Care has to be taken in every detail including preparation of *Kashaya* maintenance of temperature, pH value etc. Standard procedures have been adopted in the entire programme. In case of preparation of *Kashaya*, volume of water used is an important as the extent of powdering or crushing of the drugs so that the data relating to each of the items as well as the processes are recorded and this will help in evolving workable standards. The analysis of the finished products are generally conducted in more than one place so that the details will be fully available for verification and they are prone to be free from bias. The work on standardisation has been taken up by the Units as well as in the Enquiries so that abundant data will be available to lay down standards. Besides the pharmacognostic and chemical standardisation, steps have also been taken for bio-standardisation to help in biological understanding the activity of the preparations *in vivo*.

In view of the paramount importance for the standards for various types of preparations such as *asavas arishtas, arkas, avalehas, churnas* (*churnayoga, lepachurna*) *parpati. vati-gutika, ghritas, taila, bhasmas, sindooras, lauha, mandoor, guggulu, pishti, kshara, lavana, varti-netra bindu* and *satva* are being evolved to facilitate effective implementation of drug act. Preliminary standards for about 385 preparations have been evolved and they are in the process of verification and confirmation.

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Pharmacognostic study of a number of drugs used in Indian Systems of Medicine has been taken up by the Council. During the year under review, the work has been done to considerable extent on the following plants, and of course, in some cases the study is almost completed.

1. Different species of Asparagus
2. Zaleya pentandra
3. Moringa pterygosperma
4. Juglans regia
5. Sesbania grandiflora
6. Ficus carica
7. Cajanus cajan
8. Linum usitatissimum
9. Spondias pinnata
10. Nyctanthes arbortristis
11. Cynodon dactylon
12. Mesua ferrea
13. Abrus precatorius
14. Benincasa hispida
15. Gmelina arborea
16. Asteracantha longifolia
17. Melia azadirachta
18. Mimosa pudica
19. Beta vulgaris
20. Ficus tsiela
21. Tephrosea purpurea
22. Albizzia procera
23. Randia dumetorum
24. Various species of Zizyphus
25. Piper officinarum
26. Piper longum
27. Glycyrrhiza glabra
28. Dioscorea bulbifera

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29. Various species of Aconites
30. Acacia leucophloea
31. Barringtonia acutangula
32. Trapa bispinosa
33. Vitex Negundo
34. Bacopa monnieri
35. Piper neplens
36. Boerhaavia diffusa (*Punarnava*)

Commercial samples of *shatavari* available in the south as well as north have been taken up. Chemical methods and other pharmacognostic techniques on the market source of *shatavari* (*Asparagus* Sp.) in south has been completed and work on the material available in the bazars of north is in progress. The investigation on commercial samples of *Boerhaavia diffusa* brought to light that what is sold as *punarnava* in the market is *Zaleya pentandra*. The macroscopy, Microscopy extractives, ash value, phytochemistry of the roots as well as the stems have been studied. The study of the parts of *Moringa pterygosperma* revealed the presence of proteins and essential amino acids. The amino acids detected in the pulp between the seeds and the fruit wall are lysine, histidine, leusine, isoleusine, tryptophane and phenylalanine. The nitrogen contents in pulp is 9.79%. The cake obtained after removing the oil from the kernel of the seeds showed the presence of glycine, threonine, cystic acidbesides proteins. The pharmacognostic studies of the roots were also carried out. The pharmacognostic study of the bark of *Juglans regia* was also carried out along with the chemical tests. Similar studies have also been taken up with *Sesbania grandiflora*, *Cajanus cajan*, *Linum usitatissimum* and *Spondias pinnata*. The work on *Nyctanthes arbortristis*, *Cynodon dactylon* and *Mesua ferrea* were also conducted. The work on fruit and roots of *Abrus precatorius*, fruit of *Benincasa hispida* and bark of *Gmelina arborea* have been completed. Since the roots of *Abrus precatorius* are adulterated with those of *Glycyrrhiza glabra*, it is essential to prevent adulteration and substitution. The work on the leaves of *Astercantha longifolia*, *Melia azadirachta* and *Mimosa pudica* has been completed and studies on the stem bark of *Melia azadirachta* are in progress.

Pharmacognostical study on *Beta vulgaris* known as *Palankya* which fits in with the information provided in the Ayurvedic literature has been undertaken. Physical constants have also been determined.

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The study on *Ficus tsiela* known as *Plaksha* in Sanskrit has been studied from pharmacognostic and histochemical aspect. Other drugs studied from this angle are *Tephrosea purpurea* and *Albizzia procera*. It has been observed *in vitro* that *Albizzia procera* had haemolytic activity.

Hemisuccinic ester of glycyrrhitic acid and its Di-sodium salt has been successfully prepared. Di-sodium salt of the succinic ester of glycyrrhitic acid which is also known as Carbexolone appears to possess anti-ulcer and anti-inflammatory activity than the glycyrrhitic acid. Pharmacognostic studies on *Randia dumetorum* and two species of *Zizyphus* namely *Z. nummularia* and *Z. jujuba* have been completed. Phytochemical work on *Piper* species and *Piper neplense* is under progress.

Dried tubers of *Dioscorea bulbifera* have been subjected to detailed pharmacognostic study. Studies have also been taken up for preparing key to the identification of common Indian Aconites. *Acacia leucophloea* particularly stem bark has also been taken up for macroscopy, microscopy, and chemical investigations.

Morphological characteristics, physiological studies, anatomical characteristics and the cytological investigations of *Bacopa monnieri*, *Vitex negundo*, *Vitex trifolia*, *Barringtonia acutangula* and *Trapa bispinosa* have been studied. The data provides scope relating to identification, growth, characteristics under natural conditions and cell contents.

Chemistry (C.D.R.S.)

The chemistry relating to the following drugs in nearing completion in some instances and in progress in certain others :—

1. Asparagus racemosus
2. Commiphora mukul (*Guggulu*)
3. Pueraria tuberosa
4. Holarrhena antidysenterica (*Kutaja*)
5. Pongamia pinnata
6. Ferronia limonia
7. Prunus aviam
8. Cynodon dactylon
9. Aloe vera
10. Abrus precatorius
11. Didymocarpus pedicellata

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12. Sesamum indicum
13. Ricinus communis
14. Bergenia ciliata
15. Daemia extensa
16. Luffa echinata
17. Picrorhiza kurroa
18. Saraca indica
19. Vanda roxburghii
20. Fumaria indica
21. Crataeva nurvala
22. Grewia asiatica
23. Nerium indicum
24. Gardenia turgida
25. Gardenia latifolia
26. Salacia prenoides
27. Bombax malabaricum
28. Soymida fabrifuga
29. Oroxylum indicum
30. Alstonia scholaris
31. Cryptolepis buchanani
32. Adhatoda vasica (*Vasaka*)
33. Mesua ferrea
34. Calycopteris floribunda
35. Melia azadirachta
36. Thespesia populnea
37. Centrantherum anthelminticum
38. Plumbago zeylanica
39. Dolichos biflorus
40. Astercantha longifolia
41. Mimosa pudica
42. *Withania somnifera*
43. Pluchea lanceolata
44. Tecomella undulata

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Attempts are made to isolate diuretic principle from the petroleum ether extract and anti-inflammatory principle from the ethyl acetate extract of A*sparagus racemosus*. By repeated chromatography of these extracts, fractions possessing the above pharmacological activities were obtained. The structure of shatavarin-IV (A^7) was established, Shatavarin-I, the major saponin isolated from the alcohol extract has shown to have anti-oxytocic as well as galactagogue properties. It was established that in Shatavarin-I, one rhamnose and three glucose units are linked to the aglycon-sarsapogenin. The results of methanolysis of permethyl Shatavarin-I coupled with the fact that Shatavarin-I co-occurs with Shatavarin-IV helped in tentative assignment of structure, to Shatavarin-I, Structures were assigned to three of the steroids, isolated from *gum-guggulu* (*Commiphora mukul*) earlier and the major pregnane type compound (Z-gugulsterone) was shown to exhibit a high degree to anti-cholesteral activity. Structures of two more minor steroids guggulsterol-II and guggulsterol-III have now been established based on spectrochemical data and the structure of guggulsterol-II confirmed by partial synthesis from disogenin. A diterpene hydrocarbon and a deterpene alcohol have been isolated by extensive chromatography of the petroleum ether extract and their structures established on the basis of spectral data and degradative studies. Petroleum ether extract of *Pueraria tuberosa* was found to possess oestrogenic activity.

Vasicinone which has bronchodilator property has been isolated from the leaves of *Vasaka* (*Adhatoda vasika*). Fraction II (Chloroform: methanol 12 : 1) obtained from the bark of *Kutaja* (*Holorrhena antidysetcrica*) has been separated into two sub-fractions, ethyl acetate soluble and insoluble. Chromone carboxylic acid was isolated from the acetone extract of *Mesua ferrea* stamens. A new choromene pongaflavone froml *Pongamia pinnate* stems was isolated based on physical methods and chemical degradative studies. Pongaflavone has becn assigned as 2, 2-dimethy pyrano (5', 6', 7', 8)-3- methoxy flavone. Prelıminary screening of *Ferronia limonia* and *Prunus avium* is under progress. Different extracts of *Cynodon dactylon* and *Aloe vera*, have been prepared. In case *aloe vera*, the petroleum ether extract was subjected to column chromatography and aliphatic compound of melting point of 69°C. was separated out.

From the petroleum ethor extract of the roots of *Abrus precatorius*, two solids were obtained and identified as lupeol acetate and beta-sitosterol respectively. Sucrose was isolated and identified from acetone extract. The outer shell or seedcoat of *Abrus precatorius* was extracted with alcoholic hydrochloric acid and the extract after concewration was extrac-

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ted with ether, Ether solution on evaporation yielded gallic acid. The aqueous acidic layer was purified by preparative paper chromatography and hydrolysed; the presence of delphinidin was found. The kernels of the seeds were found to yield peptides in the alcohol extract. After hydrolysis of the peptides, four amino acids i. e. glycine. glutamic acid, tyrosine and aspartic acid were identified.

Tectoquinone tectol, dehydrotectol and betulinic acid were isolated from the roots of *Tectona gradis*. A new chalkone 'Pashanone' was isolated from the light petroleum extract of the roots of *Didymocapus pedicellata*. From the light petroleum extract of the leaves of *Didymocarpus pedicellata*, four chalkones i. e. pedicin, pedicellin, pashanone and monomethyl-pedicin were isolated.

Pedalin and two other flavonoid glycosides were isolated from the leaves of *Sesamum indicum*. Extracts of the following drugs have been sent for pharmacological screening :—

1. Ricinus communis
2. Bergenia ciliata
3. Daemia extensa
4. Luffa echinata

The previously reported structure of Kutkin, the active principle of *Picrorhiza kurroa* has been proved incongruous on biogenetic consideration and a revised structure has been proposed. The presence of ketone, apocynin, 4-oxy-3-methoxy-acetophenone has also been established. Kutkin and apocynin proved to be choleretic agents.

The chemical nature of phenolic glycosides isolated from *Saraca indica* has been established. The ecbolic action of the drug is due to the isolated phenolic glycoside. The chemical study of the petroleum ether extract of the drug resulted in isolation of low melting alkanes, alkanols and sterols. Petroleum ether extract is reported to possess progestational activity.

Octacosanol and heptacosane, active constituents of *Vandra roxburghii* responsible for its anti-inflammatory potentiality has been isolated. Chemical study of the petroleum ether extract of *Pluchea lanceolata* revealed that it contains taraxesterol, Beta-sitosterol and other low melting points.

Tecomin, glycoside has been isolated from *Tecomella undulata*.

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Protopine, the alkaloid isolated from *Fumaria indeca* has been reported to possess non-specific spasmolytic and hydrocholeretic action. The presence of non-nitrogenous constituents (1) 19-Methyl-Octacosane-1-01, (2) C_{27}-C_{29}-Alkanes, (3) Beta-sitosterol, stigmasterol and campesterol and (4) 3-Methyl-Octacosane-1, 3-diol, have been identified for the first time in the drug. Triterpene, Iupene-3-one (C_{30} H_{48}°) has been detected in *Crataeva nurvala*. It appears to possess anti-infla mmatory property. Erythrodiol, taraxasterol and Beta-sitosterol are found in petroleum ether extract of *Grewia asiatica*.

Two terpenoids have been isolated from the petrol extract of the roots of *Nerium indicum*. One of the terpenoids has been identified as lupeol acetate. Characterisation of the second terpenoid is in progress. A glycoside with a melting point of 156-58° has been isolated from the ethyl acetate extract of defatted roots of *Nerium indicum*, The glycoside plumeride isolated from *Nerium indicum* has shown a very useful properity of being an adaptogen. The chloroform extract of defatted seeds of the *Withania somnifera* showed the presence of withanolide. It seems to possess tumor-inhibiting property. The alcoholic extract of the plant has been found to possess patent anti-inflammatory and analgestic properties.

D-mannitol, Beta-sitosterol, oleanolic acid, gypsogenic acid and hedaragenin have been isolated and identified from *Gardenia turgida*. Structural elucidation is in progress. In *Gardenia latifolia*, D-mannitol, Beta-sitosterol, oleanolic acid, siaresomolic acid and hedaragenin have been isolated. One more terpen has been isolated from the root bark of *Salacia prenoides* and based on spectral data, the structure of the compound is considered to be 7, 24-oxidefrieldelane-1, 3-dione. From the root bark of *Bombax malabaricum*, in addition two naphtho-quinones earlier reported 3-methy1-5-isoprophy1-6 hydroxy-7-methoxy naphthalene 1,8-lacton has been isolated.

Beta-sitosterol, Beta-sitosterol-D-glucoside and methyl angolensate have been isolated from root bark of *Soymida febrifuga*.

Chromatographic resolution of the concentrated petrol extract of the seeds of *Sesamum indicum* over silicagel afforded two compounds which have been characterised as Sesamin and sesamolin. Sesamolin has shown to be potent synergist and increases the insecticidal potency of pyrethrines. The sesame oil, however, showed carcinogenic and anti-tubercular activities.

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Characterisation of the compound whose m.p. is 212-15° obtained from leaves of *Oroxylum indicum* is underway. Two flavonoid compounds and flavone glycoside have been isolated and are characteriscd as baicalein, scutellareine and baicalein-6-glucuronide respectively.

Picrinine, picralinal and rhazine have been identified in the alkaloidal fractions of the petrol and alcoholic extracts of the leaves of *Alstonia scholaris*. From the non-basic portion of the alcoholic extract of the leaves of *Alstonia scholaris* a triterpenoid C_{30} H_{48} O_3 (M 456), m.p. 245° has been isolated. Characterisation is in progress. Cryptolepine has been isolated from *Cryptolepis buchanani*.

Calycopterin was isolated from *Calycopteris floribunda* and subjected to anthelmintic triaies, It has also been reported that it exhibited osmotic type of diuretic activity and tranquilizing effect. Nimbidin, Nimbosteroll and one more steroid were isolated from *Melia azadirachta*. Gossypol and another flavonoid (mp. 163-167°) were isolated from T*hespesia poput nea*. The acetone extractive appears to possess activity against tape worms. Beta-sitosterol, vernolic acid, two flavonoidal glycosides were isolated from *Centranthrum anthelminticum*. Plumbagin was isolated from *Plumbago zeylanica*. Beta-sitosterol and reducing sugars were isolated from *Dolichos biflorus*. This extractive and that of petroleum ether showed hypo-cholosteraemic effect. Isoflavone glycoside having effect on lowering the blood pressure has been obtained from *Asteracantha longifolia*. The acetone and alcohoiic extracts of *Mimosa pudica* contain small amounts of proanthocyanidin and flavone glycoside apart from toxic amino acid mimosine.

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Pharmacological studies of the following drugs is in progress under the multi-disciplinary approach:

1. Boerhaavia diffusa
2. Pueraria tuberosa
3. Berberis aristata
4. Adhatoda vasica
5. Mesua ferrea
6. Aloe vera
7. Bergenia ligulata
8. Abrus precatorius
9. Eclipta alba
10. Cassia fistula
11. Asteracantha longifolia
12. Plumbago zeylanica
13. Mimosa pudica
15. Thespesia populnea
14. Dolichos biflorus
16. Salacia prenoides
17. Nerium indicum
18. Piper longum
19. Celastrus paniculata
20. Moringa pterigosperma
21. Withania somnifera
22. Hibiscus rosasinensis
23. Crataeva nurvala
24. Solanum xanthocarpum
25. Gardenia turgida (*Bharangi*)
26. Tylophora indica
27. Achyranthes aspera
28. Curcuma longa
29. Acorus calamus
30. Vanda roxburghii

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31. Commiphora mukul
32. Semicarbazone
33. Peruvoside
34. Musk
35. Ajmaline

The repeated experiments have confirmed the diuretic potentiality of *Boerhaavia diffusa*. There has been enhanced diuresis acccmpanied by increased excretion of sodium. Anti-inflammatory activity in carrageenin induced oedema was observed in ethyl acetate extraction of *Boerhaavia diffusa*. Significant oestrogenic activity was observed in petroleum ether, chloroform and petroleum ether subextract of *Pueraria tuberosa*.

Pure alkaloidal fraction of kurchi isolated by chemical unit is found to be effective in amoebiasis. Berberine, isolated from *Berberis aristata* proved effective against vibrio cholerea in laboratory animals. Berberine is also found to be antiamoebic. Vasicinone, a pure fraction from *Adhatoda vasica*, is found to have bronchodilatory activity *in vitro* and *in vivo* studies. The antagonism towards 5-hydroxytryptamine is significant. Vascinone has weak stimulating action on both the rate and force of contractions of isolated auricles. Some experiments revealed potentiation of activity of isoprenaline. The study is under progress. Acetone extract of *Mesua ferr*ea is found to be antioxytocic *in vitro* tests in rats. Petroleum ether extract of *Aloe vera* is found to be effective against gastric ulceration in laboratory animals. Methanol extract of the same plant showed local anaesthetic activity.

Pharmacological evaluation of acetone extract of root bark of *Bergenia ligulata*, alcoholic extract of seed kernels of *Abrus precatorius* and water soluble fraction of leaves of *Eclipta alba* were made. *Bergenia ligulata* exhibited analgesic activity of its own at 10, 20 and 30 mg/kg (i. p.) dose in rats, it potentiated analgesic activity of sub-analgesic dose of morphine. Mild diuretic activity has been observed. This drug inhibited oedema upto 51% in carrageenin induced inflammation.

Alcoholic extract of seed kernels of *Abrus precatorius* exhibited to possess analgesic aetivity in rats in the dose of 20 mg/kg (i.p.). The drug exhibited antiacetylcholine effect when tested on guinea pig ileum.

Antiacetylcholine effect of *Cassta fistula* was demonstracted. The degree of *curari* form effect is directly proportionate to the concentration of *Cassia fistula*. Aqueous extract of whole plant *Asteracantha*

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longifolia produced fall in blood pressure in anaesthetised dog. The fall in blood pressure is blocked by atropine. An yellow crystalline substance callycopterine proved to be anthelmintic. It showed diuretic effect and it is due to osmotic changes it produces in kidney; with increase in dose, motor-incoordination is noted. *Plumbago zeylanica* depressed frog's heart in lower dose and in higher dose it produced stimulation. *Mimoea pudica* fraction when administered to anaesthetised dog produced profound fall in blood pressure. This fall in blood pressure is not blocked either by antihistamine or atropine. This drug has not produced hypoglycaemia in rats and rabbits. Nimbidine seems to be helpful in eosinophilia. Acetone extract of *Thespesia populnea* showed slight anthelmintic effect on the worms collected from rat's intestines. Alcoholic extract of *Dolichos biflorus* seems to possess anti-hypercholesteraemic activity. *Salacia prenoides* elicited hypoglycaemic effect in experimental animals and man.

A glycoside obtained from the roots of *Nerium indicum* (white variety) was found to be an 'adaptogen'. It was very low toxicity and produced a state of non-specifically increased resistance. The glycoside possesses anabolic and anti-alarm reaction effects and appears to be a very useful therapeutic adjunct in many debilitating and chronic diseases as it increases the resistance of the organism in a non-specific manner. The alkaloid from *Piper longum*, Piperine has been found on comparison with nikethamide and metrazol to be better than both in its ability to counteract respiratory depression produced by morphine and phenobarbiton in dog, Difference between the respiratory stimulant dose and the convulsant does is sufficient to ensure the safety of using piperine in therapeutics. It increases the lethal dose of morphine and phenobarbitone,

The alcoholic extract of *Celastrus paniculata* was found to possess tranquillizing sedative, antipyretic, anti-inflammatory and central muscle relaxant properties. The alcoholic extract of leaves of *Moringa pterygosperma* was found to possess antihypertensive action. It has guanethidine like action as it potentiates pressor effect of noradrenaline and blocks the pressor action of amphetamine in the dogs. The alcoholic extract of *Withania somnifera* has been found to possess significant anti-inflammatory activity against both exudative and proliferative phases of inflammation. Both *Withania somnifera* and *Hibiscus rosasinensis* showed antipyretic and weak analgesic activity.

Some of the fractions of *Crataeva nurvala* and *Vanda roxburghii* showed promising anti-infiammatory and anti-arthritic activities. In

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addition, one of the fractions of *Crataeva nurvala* has been found to produce prolonged hypotension of gradual onset and also tachyphylaxis. The petroleum ether, steroidal and triterpinoid fractions of *Crataeva nurvala* in the does of 20 mg/I00 gm body weight produced marked disruption of mast cells of rat mesentery. The effect was significant only during the first two hours.

It has been observed that chronic administration of steroid extract of gum *guggulu* in dogs for a period of 8 months led to slight depression of food intake for the first two to three months. There was slow but continuous fall in weight though, however, the weight reduction is not significant. Fifty percent of the animals after five months had albuminu ria and cloudy swelling of renal tissue of dogs. The diuretic activity of the extract of seeds and fruit of *Withania somnifera* was studied on rats and dogs. In case of rats, there was no significant increase in the urinary volume. The chloride content was significantly higher as compared to the controlled values. In case of dogs, there appears to be increase in the urinary valume at a dose level of 25 mg/kg body weight. The increase in the chloride content is, however, less as compared to chlorthiazide. The extract from the seeds and fruit of *Solanum xanthocarpum* reduced a non-specific and mild relaxation.

Saponins of *Gardenia turgida* (*Bharangi*) caused slow release of histamine from tissues and depleted lungs from histamine. It accorded marked protection against antigen and caused development of anti-allergic, anti-histaminic substances in lung. The alkaloids of *Tylophora indica* inhibited the metabolic destruction of endogenous adrenaline released during anaphylaxis and sensitized the tissues from its inhibitory responses. This factor helped in use of this drug in bronchial asthma The diuretic effect of *Actyranthes aspera* in 5 mg/kg body weight in doses is comdarable to similar dose of acetazolamide with lesser toxicity, and is considered helpful in treatment of cardiac dropsies. The volatile oil of *Curcuma longa* showed antihylarunidase and anti-trypsin activity.

Investigations with semicarbazone revealed a dose dependant fall of blood pressure in dog, rat and guinea pig when given intravenously. Semicarbazone potentiated the pentobarbitone sleeping time in mice and rats and also indicated that it has some depressive effect of central nervous system. The drug also exhibited antipyretic and analgesic effect. Ajmaline has been found to be a good local anaesthetic agent and it was found to be more potent than procainamide.

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Bradycardia and configurational changes in T-waves were observed with peruvoside; bradycardia was followed by tachycardia in dog but in guinea pig short duration of ventricular tachycardia was observed which was late in onset. Study of musk on isolated tissue preparations as well as intact animals were also made.

Pharmacological profile of the chloroform extract of *Acorus calamus* is in progress.

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Clinical studies/screening undertaken in collaboration with Ayurvedic and Allopathic teams is briefly detailed below. In these trials drugs which are reputed to have specific therapeutic potentialities which are either backed by literature/tradition have been taken up. The followins drugs have been taken up foı study:

1. Punarnava
2. Shigru
3. Nagakeshara
4. Kumari
5. Parijata
6. Haritaki
7. Mamajjaka
8. Bilwa
9. Jyotishmati
10. Pashanabhedi bheda (*Bergenia* Sp.)
11. Eranda
12. Nimba (*Melia azadirachta*)
13. Aragwadha (*Casia fistula*)
14. Karaveera
15. Prasarini
16. Pippali
17. Vibhitaki
18. Shireesha
19. Rohitaka
20. Guggulu
21. Kantakari
22. Ashwagandha
23. Haridra
24. Bharangi
25. Apamarga
26. Bimbi
27. Lajjalu (*Mimosa pudica*)
28. Glycyrrhetic acid

Shatavari has been considered to possess galactogogue effect besides its finding place in the treatment of cases like *shoola* and *amlapitta*. Another drug, *punarnava* considered to be an useful diuretic, and *shigrubeeja* known to possess anthelmentic property have also been taken up.

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The trials with *shatavari* revealed that it has no specific effect in cases with normal menstrual cycle, and as such the study has been limited to cases of *pradara* and *kashtartava* (Menorrhagia and Dysmenorrhoa). In case of *shoola* and *amlapitta*, there has been a satisfactory response ranging from fair to good in most cases where *pitta* forms an important affected *dosha*. Considering the claim of *shigru* in the treatment of *udarakrimi*, clinical trials have been designed. Clinical improvement has been recorded in number of instances but the inadequacy of the data prohibits from drawing specific conclusions. The diuretic response with *punarnava* has not been discouraging in cases of *sopha*.

Drug trials/studies have been taken up with *kumari* in *udarashoola* and *amlapitta*, *nagakesar* in *atisara* and *pravahika*, *parijata* in *gridhrasi*. Double blind trials have also been conducted. The results seem to be encouraging and study and follow up of a larger number of cases with specifically processed data is necessary to draw conclusions. In case of *amlapitta* also a similar approach is to be made. Pilot studies with *kumari asava* in *jeernapratishyaya* and *kumari bol* in *kashtartava* have been taken up. The response has been encouraging and large scale studies are essential to confirm the observations. Another drug *nagakesar* referred to earlier has been tried in cases of *atisara* and *pravahika* and response does not appear to be satisfactory. However, long range studies are to precede for drawing any conclusions. *Parijata* showed encouraging results in a number of cases of *gridhrasi*. Use of *haritaki* in cases of *sthaulya* has been taken up for preliminary screening and it has been observed that the rate of weight reduction has been fairly slow.

Thc trial of *panchanga* of *mamajjak* was carried out to study the hypoglycaemic effect. It can exert in cases of *madhumeha*. Similar trials with *bilwa* were conducted. The parameters adopted in the assessment of the effectiveness or otherwise are based on tenets mentioned in the works of Ayurveda together with biochemical data and other pathological investigations. In case of *mamajjak*, the fall of fasting blood sugar was statistically significant. A few side effects like burning sensation in throat and stomach as well as nausea were encountered. *Bilwa* did not show any significant hypoglycaemic potentiality.

Jyotishmati was tried in cases of hypertension to evaluate its capacity to lower the blood pressure. Further work is necessary to advance any opinion. Adequate trials are yet to be made on *Bergenia* species in cases of *mutravaha srotorogas*. The same holds good in case of use of *eranda* in certain *sandhigata rogas*.

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Nimbidine, the active principle isolated from *Melia azadirachta* (*Nimba*) has been tried in cases of tropical cosinophilia. A fall in eosinophilic count was observed which can be considered as a favourable therapeutic response. The drug appears to bo tolerated well. The cases of pyoderma was benefitted with treatment by the extract obtained from *Cassia fistula* (*Aragwadha*).

Extracts obtained from *Mimosa pudica* (*Lajjalu*) seem to help the cases of psoriasis. The biochemical parameters indicated that the drug is well tolerated and free from side effects.

Karaveera; prasarini, pippali and *vibhitaki* have been taken up for intense collaborative studies in cases of *hridroga, sandhigata vata, rasayana chikitsa* and *kasaswasa* respectively. The studies on *hridroga* with *karaveera* have been encouraging. The other drugs have proved fairly encouraging and work is under way.

Shirish taken up for trial in bronchial asthma showed to be effective in allergic skin disorders. The cases of *yakrit, pleeha rogas* were given a trial with *rohitaka*. The response is encouraging.

The trials with *Kantakari* indicated that it is useful in cases of chronic bronchial asthma and chronic bronchitis. *Ashwagandha* has been helpfu in the treatment of cases of acute rheumatoid arthritis. Analgesic effect has been recorded in non-tubercular rheumatism.

Drugs like *haridra, bharangi* and *kantakari* showed encouraging therapeutic response in cases of *swasa rogas, Haridra* appears to be effective in non-tubercular respiratory diseases like bronchitis. perhaps in view of its possessing a bronchodilator effect. The assessment has been made by making periodical pulmonary function tests. The volatile oil of *haridra* showed beneficial effect in rheumatoid arthritis. *Apamarga*, another drug of repute in Indian Medicine has been tried to elicit its cardiotnic properties. The results have not been encouraging, *Gardenia turgida*, available as *bharangi* in some States has been tried in cases of tropical eosinophilia and the response has not been encouraging.

The clinical trial of *bimbi* has been taken up in proved cases of *madhumeha*. The standard parameters helpful for evaluation of the response have been adopted. Trial of fresh juice of stem part of *bimbi* has showed encouraging results at the end of 2 to 4 weeks treatment. However, a few patients could not tolerate the drug and showed symptoms of nausea, vomiting, diarrhoea, anorexia etc. The trial is likely to be rewarding

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with the choice of the cases in terms of age of onset of disease, chronicity, diet and other habits etc. If taken cognisance of while fixing the dose schedule in the treatment.

Clinical trial of gum *guggulu* and glycyrrhetic acid in the treatment of rheumatoid arthritis, atherosclerosis and obesity has been undertaken. As a prerequisite for this twenty five normal subjects have been studied. So far five hypertensive patients with coronary heart disease and five with out coronary heart disease have been studied and further work is necessary.

Guggulu in cases of obesity showed tendency in reduction of serum cholesterol and triglyceride besides reducing the body weight. Trial for longer period with adequate follow-up will provide valuable data. Further administration may have tendepcy to prevent the risk of coronary heart diseases which is fairly common among hyperlipidemic subjects.

The effect of crude *guggulu* and that of fraction–A formed a subject of an enquiry under the Council. The control studies were made using known hypocholesteraemic agent Atromid-S. The drug trial was conducted for three weeks with a follow up an average for three months after discontinuance of the drug. Both the crude *guggulu* and fraction—A of petroleum other caused a significant decrease in the mean serum cholesterol leads to the data particularly with crude ones showed significant response as early as 10th day with an appreciable reduction at the end of three week trial. A raise in blood urea level has been an important incidental observation. In animal trials, fraction A of petroleum ether extract was internally administered with olive oil as placebo. Histochemical studies revealed reduction in liver cholestrol.

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Extraction Supply

The Extraction Supply Units of the Council isolated the fol.owing extracts for supply in various research units.

1. Petrol extract of *Commiphora mukul* (Gum *Guggulu.*)
2. Chloroform extract of the defatted *Commiphora mukul.*
3. Ecatate extract of the mare left after digestion of *Commiphora mukul* with petrol and chloroform,
4. Ethanol extract of *Commiphora mukul* (after succcssive extraction with petrol, chloroform and ethyl acetate).
5. Petrol extract of *Salacia fruticosa.*
6. Benzene extract of the defatted *Salacia fruticosa.*
7. Different extracts of *Aerva lanata.*
8. Different extracts of *Hibiscus rosasinensis.*
9. Extraction of the active constituents from the leaves of *Adhatoda vasica.*
10. Glycyrrhetic acid
11. Jatamansone.

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Toxicity and Confirmatoty Studies

Certain coded drugs have been taken up for toxicity studies as well as for confirming the alleged therapeutic potentialities. The coded drugs under trial are these possessing analeptic potentiality and hypoglycaemic potentiality. Further studies are necessary before any firm indication is made.

The Council has undertaken Chemico-pharmacological studies of market samples of *Surma*, *Kajal* and *Anjan*. The studies did not reveal any side effects or toxicity in the experimental models but however long term studies are necessary to pronounce whether any adverse effects are possible due to absorption of metals like lead, iron, zinc etc. through laehrymal glands. The clinical and survey wings have not reported any hazards or adverse effects.

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The Council through its net work of Enquiries and Units look to research on clinico-therapeutic aspects of commonly prevalent diseases. In this programme, therapeutics along with elucidation of the fundamental principles related to the disease as well as that govern mechanism of causation of a disease, of its prvention have also been taken up.

There has been a growing interest in healthful longevity and this demands in proper appreciation of the preventive measures besides resuscitating one of the *angas* of Ayurveda known by the term gerontology. In course of studies of this aspect *rasayana* naturally receives due attention and importance. *Rasayana* in its fullest sense aims at maintenance of positive health and of course the therapeutic element involved therein is, however, not ignored. The study of physiological and biochemical responses of the body in health as well as in disease is also involved in this programme. Selective *samshodhana* therapy is a pre-requisite in this programme. *Shakhapushpi* and *punarnava* have been taken up for *rasayana* studies. The treatment coupled with selected yogic exercises appear to improve physical and mental make up and assisting developing immunity. It is opined that the *rasayana* drugs act at one or the other of the following levels namely may be at the level of *agni* (*jataragni* and *dhatwagni*) or at the level of *srotas* by clearing the mechanical obstruction in the lumen of vessels and mobilisation of nutrient material or at the level of *rasa* and other *dhatus* by improving the quality of the specific nutrients. Other observations that have emerged out are the presence of higher levels of acetyl choline and/or cholinesterase in cases with *vata prakriti* increased levels of catecholamines and/or their metabolising enzyme monoamino oxidise in subjects of *pitta prakriti* and increased levels of histamine and/or histaminase in those of *kapha prakriti*. The studies are likely to provide suitable interpretations to the concepts of Ayurveda.

The study of the relation of *prakriti* to peptic ulcer proneness and *prrkriti* as clue for forecasting diabetic tendency has been completed. The effects of drug *punarnava* (whole plant powder) on longevity, growth pattern, nitrogen retention and on body biochemistry was studied. *Ashwagandha* is tried to assess the *rasayana* potntiality it can confer ; its effect on growth and intelligence has also been studied. The *medhya* effect of *mandukaparni* was studied making use of standard intelligence test. The formulary of simple remedies was prepared from the selection of drugs from various source materials.

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Studies on efficacy of some Ayurvedic drugs in the treatment of wounds with reference to *Sodhana* and *ropana* have also been taken up along with standardisation of treatment of ano-rectal disorders by *kshara-sutra*, and standardisation of principal and techniques of *nasyakarma* in Ayurveda. The studies relating to *ksharasutra* revealed that *ksharasutras* do not possess any antibacterial property. It has been generally observed that *apamarga kshara* is most potent and *kadali kshara* is least potent. The choice of *kshara* is decided in accordance with *prakriti* of patients as well as *dosha* involved. *Ksharas* made of *nimba*, *arka snuhi*, etc, were also tried. The response has generally been encouraging and recurrence is uncommon.

Wound healing, another buring problem of the day has been receiving considerable attention. The systematic study of the literature is likely to bringforth potent drugs described in Ayurveda to the forefront. Cases of chronic headache, and chronic sinusites have been chosen for studying the role of *nasyakarma*. Study of a number of cases is likely to provide a helpful clue in the therapeutics of these conditions.

The studies of the effects of *varuna*, *kulatha* and *gokshura* in cases of *ashmari* have been taken up. The cases are subjected to a through cysto-metric examination, and cystograms are taken at periodical intervals to assess the effect of drugs in *ashmari* particularly with reference to size and shape. *Kulatha kwath* was found to be helpful in the treatment of *sharkara* in about 30-60 days. *Kulatha kwath* also appears to help in propelling the smaller stones through ureter to bladder and from there to outside. It also prevents increasc in the size of the stone. *Varuna kwath* tones the bladder and musculature of the urinary tract. Cases of non-specific cystites responded well to *varuna kwath*. *Gokshura* that has been taken up in the study has been helpful in providing diuresis when the urine is acidic. *Ikshura kshara* is also being given a trial to find its therapetuic potentiality in *ashmari*.

Katukarohini along with certain other drugs like *amalaki*. *daruha-ridra*; *bhringaraj* etc, claimed to be beneficial in the treatment of *kamala* and liver diseases was given a trial. The diagnosis of the patients was reached on the basis of detailed clinical examination coupled with labora-tory and other investigations that are considered helpful. It can be said that response has been encouraging when *katukarohini* is used. *Grahini*, which is the result of disturbance of *jataragni* has been taken up since it has the natural tendency to produce malabsorption besides a train of gastro-intestinal symptoms. A number of investigations considered to

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assist study of this problem like the role of hormones and enzymes in the metabolism at cellular level have also been conducted. The studies are being conducted taking into consideration a variety of common aetiological factors that lead to this State.

Another vital problem in the field of clinical medicine is the treatment of *medoroga*. The study is being made taking into account genetic, hermonal and dietetic influences in the causation of the disease. *Medoroga* is rated as a cause for a number of diseases and as such there has been an imperative need to find a safe and useful remedy for this condition. The studies that have been undertaken almost clearly point to the usefulness of *guggulu* in the treatment of *medoroga*, but, however, conclusions can be drawn when more number of cases are seen and followed for a longer period. The effect of *arogyavardhini* in cases of *medoroga* has been taken up and there has been decrase in weight which perhaps may be due to inhibition of fat absorption. Further study may help in explaining the mechanism of its action and as well as its place in the management of cases of *medoroga*.

Since the backbone of clinical study is proper understanding and appreciation of the basic concepts, the Council undertook to study of *prakriti* and disease proneness. This calls for examination of health volunteers to evolve norms, so that they may be conveniently applied in study of patients. Physical, psychological and biochemical investigations have been made use of in the assessment of *prakriti* and a follow-up of these volunteers has also been undertaken to study the relation between the *prakriti* and disease proneness. The study will be able to provide a blue print of the disease tendencies of a subject with reference to *prakriti*.

Timira. one of the common conditions of eye has been taken up to study aetio-pathogenesis and the role of *mahatriphalaghrita* and *saptamritalauha*. Further studies are necessary to substantiate the beneficial effects of the treatment.

Madhumeha, one of the commonly prevailing conditions for which a suitable remedy is not available is taken up for study. Effect of *shuddha shilajit*, *bijasara* as well as *madhwasava* have been taken up and it is considered that trials for a longer period would help to draw conclusions. It has been observed that cases treated with *shilajit* did not have the *upadravas* of the diseases. Cases of *amavata*, *sandhigatavata* and *gridhrasi* are being treated with *nirgundi*. Some of the cases of *gridhrasi* are given *sneha chikitsa*, *swedakarma* and *shodhana*. A similar treatment is provi-

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ded for cases of *pakshaghata* also. The place of *vasti karma* in *shula* is being investigated.

Cases of *parinamashula* and allied conditions are treated with *kushmanda swarasa* when *pitta* is involved. The bark of *varuna* in the form of decoction is used for *amashaya shodhana*; it is also used as a *kwatha* internally. It has been observed that *varuna twak kwatha* while used for *amashaya shodhana* has capacity to bring to normally the disturbed secretory physiology of gastric mucosa. The biochemical data and other investigations support the usefulness of the drug. Effect of certain reputed drugs in treatment of *swasa* are also being taken up.

The role of *panchakarma chikitsa* along with administration of *Yagarajaguggulu* is being given a trial to assess whether the combination of the treatment has any potentiating effect in providing relief quickly to the patient. In cases of *kshudrakushtha, panchatikta ghrita* is administered starting from 20 gms, dose a day with milk considering the tolerability of the patient to the drug. *Ichabhedirasa* is given for one day before the actual treatment is commenced. The treatment seems to provide relief; however, long range systematic studies are necessary.

The study on aetio-pathogenesis of thyroid swellings according to Ayurvedic works and effect of indigenous drugs on thyroid swellings is also in progress. *Kanchanaraguggulu, shilajit* and logvol's iodine have been chosen in the study. There seems to be some response with indigenous preparations but, however, treatment is to be continued for a long period. However, adequate number of cases are being collected to study the usefulness of the treatment. Study of the effect of *paribhadra* and *kampillak* in *krimiroga* has also been taken up. *Paribhadra* is used in the form of *swarasa* in some cases and bark powder in a few. The *swarasa* is given in the dose of 15-30 mls. two or three times a day with honey, and the powder in 3—15 gm. doses two three times a day with water or honey. Symptomatic response is noticed with *paribhadra*. Cases that had *kampillak* powder showed fairly encouraging response. However, work has to be continued further.

Diet plays an important role in the therapeutic management of a number of diseases. Studies were undertaken to assess the effect of milk diet in case of *udara* butter milk in *pravahika* and *grahini* and *yavadhanya* in *madhumeha*. The first two diet schedules showed encouraging response and in case of the third, there has not been expected benefit. All the cases were investigated by currently available methods, and diagnosis confirmed before instituting the therapy.

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Studies on evaluation of mental illness at the out-patient and in-patient level were coducted. The methods adopted in the treatment of patients admitted is based on *doshasthiti*, The common methods followed are *abhyanga*, *pichudharana*, *bhashpasweda*, *virechana*, *basti*, *nasya*, *anjana*, *dhara* (*takra-taila-ksheer-kwatha*) *adravya*, *bhoota chikitsa* (*bhajan*, *chankramana*, *kreeda*, *santwana* etc.) and *shamanaushadhas*.

Jatamansi and *tagara* have been used in cases of *unmada* and it is felt that the rcsponse is likely to be encouraging. In cases of *vatajashirahsoola*, *ksheerabala taila* has been chosen for *pana*, *abhganga* and *nasya-karma*. The studies on *vatajashirahshoola* mostly could be categorised under group psychogenic headache and it being largely subjective can be understood by institution and inference.

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Mobile Clinical Research

The Fact Finding Mobile Clinical Research Unit made a pilot survey of some randomly selected villages at Andhra Pradesh and they observed that the following are common clinical conditions met with:

Shleepada — Amavata — Pandu — Atisara — Swasa — Shotha — Urahsshoola — Adhmana — Sweta pradara — Pakshavata — Parshwashoola — Pravahika.

In case of *shleepada*, the problem taken earlier, *Nityananda rasa* has been tried for its therapeutic effectiveness. Since *amavata* is very common, work has also been undertaken to study suitable therapeutic measures in *amavata*. Cases of *amavata* are being treated with *Yogarajaguggulu* and/or *Gandhak rasayana*. The incidental treatment has been provided by the Unit during the course of its survey.

In Gujarat State about 27 villages were surveyed and work on the villages namely Masitiya. Yav peraja, Chela is in progress. The common diseases reported are as follows :

Jwara — Udarashoola — Atisara — Twagrogs — Swaskasa — Vata vyadhi — Pidika — Pratishyaya — Pandu — Netraroga — Shweta pradara.

Trial of certain medicines has been taken up in skin disorders. There are about 47 physicians practising in the area. The Unit observed that the following diseases are common : —

Vataroga — Krimiroga — Yoni roga — Yakrit roga — Vriddhi.

The Unit took to study of estimation of blood cholesterol in normal and disease states.

Pilot studies of the villages Changrehar, Drahal, Kamehar, Machhiyal, Chalaharg, Khuddar and Dhakrera of Himachal Pradesh showed prevalence of the following diseases :

Vatavyadhi — Shool — Agnimandya — Kasa — Panduroga.

The problem 'The effect of *Musta* on *Atisara*' with particular stress on infantile diarrhoea was taken up.

Khamakera and Nanosa villages of Madhya Pradesh covering a total population of 2700 was surveyed and the common diseases are as follows:

Vishama jwara - Kasa - Atisara - Agnimandya - Vatakaphajwara.

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The problem of the levels of blood cholesterol in vegetarian and non-vegetarians taking unsaturated fat is also being studied.

Survey of Nadumpura, Panjal and Desamangalam (Kondagur) villages of Kerala showed that the following diseases are more prevalent.

Jwara - Pandu – Pama – Vatavikara – Kasa–Kosthashoola – Atisara.

The role of *Gudapippali* and *Ativishadi churna* in *Udarakrimi vikaras* and *Gokshura modaka* in *Shweta pradara* has been taken up as special problems. Survey of the medicinal facilities available have also been given due place in the programme.

Krishnarajapuram of Karnataka State has been surveyed and about 273 patients of different diseases were treated. The diseases are as follows :

Anthrika jwara – Udarashoola – Vicharchika – Krimi – Agnimandya – Madhumeha – Swasa – Shirashoola — Raktapradarn — Parinamashoola — Amavata — Atisara — Pandu — Rasa.

A pilot survey of viliages aronnd Nagpur has been made and it revealed that the following diseases are common in these places:

Vatavyadhi — Raktapradar — Pandu — Skin disease — worms Jwara — Swasa — Atisara — Shleepada — Udrashoola.

Raktapradara and *Sandhivata* have been taken up as special problems for study.

Preliminary survey of the villages near to Bhubaneswar has been made. The effect of *Nityanandarasa* in *Shleepada* has been taken up as a special problem for study and investigation. *Vatavyadhi* and *Twagroga* seem to be common in these plaees.

The common diseases that were met with at Durgapur, Ghunder Bakshiwala and Allowarkh of Punjab State are as follows —

Amavata — Jwara — Paksaaghat — Skin disease — Arsh — Mukh roga — Kasasawasa — Pradar — Sheetapitta — Krimi — Shoola — Grahanni — Vishamajwara.

The problem relating to the effect of Desi ghee on blood cholesterol has been taken up besides studying the effect of *Chyavanprash* for promotion of health in school-going children.

Certain areas in Kandva gram panchayat and Mirzapur district of

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Uttar Pradesh which were surveyed indicated the prevalence of the following diseases :

Krimi — Pandu — Thwagroga — Jaundice — Pravahika — Atisara — Jwara — Kasa.

The effect of *Bilwadi churna* and *Shatapushpadi churna* in *pravahika* has been taken up as a special problem along with study of prevalence of *madhumeha.*

Arabinda sarni, Dakshineswar, Baranagar, Tallyganj road, Kalighat, Dum-Dum and Barasat of West Bengal were surveyed and the preliminary survey revealed that the following are a few common diseases :

Parinamashoola — Udararoga — Shotharoga — Shirasshoola — Jwara — Rajayakshma — Kasa — Atisara - Karnaroga - Krimiroga Shweta pradara - Amlapitta - Swasa - Raktapitta.

Krimiroga, tomaka swasa, shweta pradara and *madhumeha* have been taken up as special problems for study.

Collection of information relating to availability of medical facilities together with nature thereof has also been made.

The folklore claims are collected during the survey in all States.

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The Council has collected the medical literature available in Ramayana and presently engaged in recording references of medical importance from Atharvaveda. Study of different readings and versions of Ashtanga sangraha and its commentary are being examined to enable to bring out a properly edited useful work. A microfilm of Ashtang sangraha along with the *Teeka* was purchased so that it will be of great help for collation and comparison in the editing work. Rare editions of Ashtanga sangraha available in different parts of the country are also purchased to facilitate research workers in the literary research programme.

Medical literature referred to in Darshanas including Yogadarshana with its various commentaries is being collected.

Bhela samhita, one of the important treatises of Ayurveda which was widely quoted by Agnivesha, Kashyapa and Vagbhata and commentators like Chakrapani and Hemadri is under publication. In this connection, the various extant versions of Bhela samhita have been collected and edited. Chikitsamratasagara of Devidasa has been completed after comparison after comparison with the manuscripts obtained from Bombay and Baroda. The final press copy of Ashtanga Hridaya in Tamil has been prepared, The descriptive catalogue of commentaries available on Ashtanaga Hridaya in Kerla has been compiled. Preparation of a descriptive catalogue of 96 Sanskrit medical manuscripts has been taken up. The Tamil translation of Charaka samhita is in progress.

Preparation of guidance manual covering information that will facilitate in identification of genuine crude drugs is in progress. It is felt that visual aids and explanatory manuals will go a long way to aid in understanding and apprecitaing the specifications that may be prescribed by the Pharmacopoeia.

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Publications/Participations

S. No.	Author (s)	Title	Journals/Seminar Conference	Name of the Unit
1	2	3	4	5
Drug Research:				
General :				
1.	Agarwal, S.C. Bhaskar, A. Sheshadri, T.R.	Chemical constituents of the roots of *Didymocarpas pedicilata*. Isolation and structure of Pashanone, a new chalcone.	Indian Journal of Chemistry. Vol. II.	CDRS Chemistry Unit, Delhi.
2.	Atal, C.K. Gupta, O.P.	Occurence of Methyl piperate in *Piper officinarum*.	Indian Journal of Chemistry. Vol. X.	CDRS Pharmacognosy Unit, Jammu.
3.	Atal, C.K. Gupta, O.P.	Constituents of *Piper neplense*.	Phytochemistry Vol. II.	CDRS Pharmacognosy Unit, Jammu.
4.	Atal, C.K. Moga, P.N.	The structure of peepulides an alkaloid from *Piper peepuloides*.	—	CDRS Pharmacognosy Unit, Jammu.
5.	Basu, D. Basa, S.C.	N-Methylblocycloatalaphylline, a new alkaloid from *Atalantia monophylla*.	Journal of Organic Chemistry.	CDRS Chemistry Unit, Calcutta.

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6.	Beetor, N.P.	Gum *guggulu* and its effect on obese subjects.	WHO day, Government Medical College, Patiala.	CDRS Allopathic Team, Patiala.
7.	Bhatta, A.K. Rangaswamy, S.	Crystalline, chemical components of some vegetable drugs.	Phytochemistry	CDRS Chemistry Unit, Delhi.
8.	Chandra, D. Gupta, S.S.	Anti-inflammatory and anti-arthritic activity of volatile oil of *Curcuma longa.*	Indian Journal of Medical Research.	CDRS Pharmacology Unit, Bhopal.
9.	Chandra, D. Gupta, S.S.	Diuretic effect of the saponins of *Achyranthes aspera.*	Indian Journal of Medical Research.	CDRS Pharmacology Unit, Bhopal.
10.	Chatterjee, A.	Chairman of one of the Sessions	IUPAC symposium of natural products New Delhi.	CDRS Chemistry Unit, Calcutta.
11.	Chatterjee, A.	Lectures on lactonic constituents of Medicinal Plants occuring in *Umbilliferae.*	Central Drug Research Institute, Lucknow.	CDRS Chemistry Unit, Calcutta.
12.	Chatterjee, A. Mukherjee, A. Kundu, A.B.	Chemical investigations of *Withania somnifera.*	8th Scientific Conference on Indian Medicine, Banaras Hindu University, Varanasi.	CDRS Chemistry Unit, Calcutta.
13.	Dasgupta, S.R.	An account of studies on the effect of some drugs on dreams.	All India Symposium on Brain and Behavioural Scence.	CDRS Pharmacology Unit, Calcutta.

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14.	Gupta, R.C. Mitra, R.	Pharmacognostic studies on *Ficus tsiela*	24th All India Pharmaceutical Congress, Cuttak.	CDRS Pharmacognosy Unit, Lucknow.
15.	Gupta, R.C. Mitra, R.	Pharmacognostic studies of *Angelica glauca.*	24th All India Pharmaceutical Congress, Cuttak.	CDRS Pharmacognosy Unit. Lucknow.
16.	Gupta, S.S. Bhagawat, A.W. Ram, A.K.	Cardiac stimulant activity of the saponin of *Achyranthes aspera.*	Indian Journal of Medical Research.	CDRS Pharmacology Unit, Bhopal.
17.	Hemadri, K.	*Arthroxon saterensis Almidia emend*	Bulletin of Botanical Survey of India.	Regional Research Centre, Vijaywada.
18.	Hemadri, K.	Observations on the flora of Harishchandragarh, Sahyadri Range, Maharashtra.	Bulletin of Botanical Survey of India.	Regional Research Centre, Vijaywada.
19.	Karnick, C.R.	Plants that produce Hallucinogenation.	Indian Drugs Pharmaceutical Industry, Journal.	Jawaharlal Nehru Ayurvedic Medicinal Plants Garden Herbarium and Museum, Poona.
20.	Kumaraswami, R.	A study on the Source Survey of the Barbarine yielding plants of Tamil Nadu.	Seminar on Forest Based Industries.	Survey of Medicinal Plants Unit, Palayamcottai.
21.	Kundu, A.B.	Active constituents of *Withania somnifera.*	8th Annual Conference of Indian Medicine, Banaras Hindu University, Varanasi.	CDRS Chemistry Unit, Calcutta.

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22.	Lal, R. Rathor, R.S. Chakravarthy, R. Das, P.K.	Preliminary studies on the anti-inflammatory and anti-arthritic activity of *Crataeva nurvala*.	Indian Journal of Pharmacology.	CDRS Pharmacology Unit, Varanasi.
23.	Pande, G.B.	Therapeutic stndies of 50 *Jeerna amavata* cases tried with *Guggulu* .	Seminar of MML Centre for Rhenmatic diseases, New Delhi.	Drug Standardisation Research Unit, Junagadh.
24.	Purushothaman, K.K. Sharada, K. Narayana swamy, V.	*Pushkaramoola*	Journal of Research in Indian Medicine.	Captain Srinivasamurthy Research Institute, Madras.
25.	Raj, P.V.	"*Sharapunkhaparichayamu*"	Vaidya Kala	Regional Research Centre, Vijaywada.
26.	Shah, C.S. Shah, N.V.	Pharmacognostic study of the root bark of *Ricinus communis* .	Journal of Research in Indian Medicine.	CDRS Pharmacognosy Unit, Ahmedabad.
27.	Shah, C.S. Shah, N.V. Mody, K.D.	Pharmacognostic study of *Pashana-bheda* Part I.	Journal of crude drug Research.	CDRS Pharmacognosy Unit, Ahmedabad.
28.	Shah, N.C.	Indian Spikenard	24th All India Pharmaceutical Congress, Cuttak.	CDRS Pharmacognosy Unit, Lucknow.
29.	Shankar, V.S. Prasad, S. Unniyai, M.R.	Studies in *Ashtavarga* chromatographic examination of sugar in the tuber of *Habenaria intensidia* and *Mycrostalis wallichii*.	Journal of Research in Indian Medicine.	Regional Research Centre, Joginder Nagar.
30.	Sharma, P.C.	Medical Plant wealth around religious shrines of India, Badrinath area.	Journal of Research in Indian Medicine.	Survey of Medicinal Plants Unit, Patna.

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31.	Sharma, V.N.	—	5th International Congress on Pharmacology, Sanfransisco.	CDRS Pharmacology Unit, Jaipur.
32.	Singh, N.	Studies on the anti-inflammatery antiseptic and analgesic activity of chromatographic fraction of *Diosporus cordifolia.*	4th Annual conference of Indian Pharmacological Society.	CDRS Pharmacology Unit, Lucknow.
33.	Singh, N.	Isobolometric studies with piperine.	4th Annual conference of Indian Pharmacological Society.	CDRS Pharmacology Unit, Lucknow.
34.	Singh, N.	Pharmacological studies on glycoside of *Nerium indicum,*	5th Annual conference of Indian Pharmacological Society.	CDRS Pharmacology Unit, Lucknow.
35.	Surange, S.R. Pendse, G.S.	Pharmacognostic study of root of *Boerhaavia diffusa.*	Journal of Research in Indian Medicine	CDRS Pharmacognosy Unit, Poona.
36.	Tiwari, K.C. Joshi, P.	Effect of auxins on reproductive growth on yield of *Plantago ovata.*	Indian Journal of Pharmacy.	Amalgamated Unit, Ranikhet.
37.	Trivedi, V.P. Mann, P.C.	Vegetable drugs regulating fat metabolism in Charak.	Quarterly journals of crude drug research, Nederlands.	Amalgamated Unit, Ranikhet.
38.	Unniyal, M.R.	Botanical identity of crude drugs of Hardwar and Dehra Dun Market.	24th Indian Pharmaceatical Congress, Cuttak.	Regional Research Centre, Joginder Nagar.
39.	Unniyal, M.R.	*Himalayaki Ghatiyonme Upalabdha Mansitıayaka Vanaspatik Adhyayana.*	Sachitra Ayurveda	Regional Research Centre, Joginder Nagar.

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40.	Unniya[1], M.R. Chauhan, N.S.	Chemically important medicinal plants of Kulu Forest Division of Himachal Pradesh.	Nagarjun	Regional Research Centre, Joginder Nagar.
41.	Uuniyal, M.R. Chauhan, N.S.	Traditionally important medicinal plants of Kangra Valley in Dharmashala Forest Circle.	Journal of Research in Indian Medicine.	Regional Research Centre, Joginder Nagar.
42.	Unniyal, M.R. Billore, K.V.	*Tylophora hirsuta*, an indigenous drug inducing abortion.	Journal of Research in Indian Medicine.	Regional Research Centre, Joginder Nagar.
43.	Venkitaraman, S.	*Salacia prenoides*, experimental and clinical studies.	5th Annual eonference of Indian Pharmacological Society, Jaipur.	CDRS Pharmacology Unit, Trivandrun.
44.	—	Evaluation of anti-inflammatory antipyretic in the chromatographic fractious from *Diosporus cordifolia*.	Journal of Research in Indian Medicine.	CDRS Pharmacology Unit, Lucknow.
45.	—	A glycoside from roots of *Nerium indicum* as an adaptogen producing a state of non-specifically increased resistance in rats and mice.	5th Annual conference of Indian Pharmacological Society, Jaipur.	CDRS Pharmacology Unit, Lucknow.
46.	—	Comprative Pharmacognesy and Physiology and *Vitex negundo* and *Vitex trifolia*.	Indian Science Congress.	CDRS Pharmacognosy Unit, Calcutta.

Papers read out in the Seminar of CCRIMH

1.	Ali, U.S.	Anatomical studies on *Varuna* (*Crataeva religiosa*).	—	Captain Srinivasamurthy Research Institute, Madras.

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2.	Ali, U.S.	Contribution to the Botanical identity of *Vidari.*	—	Capt. Srinivasamurthy Research Institute, Madras.
3.	Bhatnagar, L.S. Singh, V.K. Pandey, G.	A new botanical source of *Bharangi* in Madhya Pradesh.	—	Survey of Medicinal Plants Unit, Gwalior.
4.	Bhattacharya, S. Chandra Sudhir Nair, A.R.	Survey and collection of Kampillak (*Mallotus phillipenensis*) in Assam and its use as Vermifuge.	—	Survey of Medical Plants Unit/Clinical Research Enquiry, Gauhati.
5.	Billore, K.V. Unniyal, M.R.	A study on the group of *Mansitraya* in Ayurveda.	—	Regional Research Centre/Regional Research Institute, Joginder Nagar/Jaipur.
6.	Dey, D. Das, M.N.	Study on the leaf, bark and seed samples of *Barringtonia acutangula* with special reference to Pharmacognosy and Pharmacology.	—	CDRS Pharmacognosy Unit. Calcutta.
7.	Dhyani, P.L. Joshi, K.J. Ali, M. Baxi, A.J.	Effect of vegetable drugs on chemical values of *Tila Taila* and *Goghrita.*	—	Preliminary Drug Standardisation Research Unit, Jamnagar.
8.	Fernandez, R.R. Yelne, M.P.	Some observation on the Medicinal Plants in JNAMPG & Herbarium. Poona.	—	Jawaharlal Nehru Ayurvedic Medicinal Plants Garden Herbarium and Museum, Poona.
9.	Hariharan, V.	Saponins of seed coats of *Putranjeeva roxburghii.*	—	Central Research Institute Cheruthuruthy.

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10.	John, D.	Preliminary studies on the vegetation of Kottur (Trivandrum Forest Division).	—	Survey of Medicinal Plants Unit, Trivandrum.
11.	Laxmi, P. Srimannarayan, G. Rao, N.V.S.	A new chromeno-chromene from *Pongamia pinnata* (Syn. *P. glabra*)	—	CDRS Chemistry Unit, Hyderabad.
12.	Lal, J. Dutta, S.K. Sharma, P.V.	Estimation of sugar in *Asavas* and *Aristas*.	—	Preliminary Drug Standardisation Research Unit, Varanasi.
13.	Mehra, P.N. Karnick, C.R.	Pharmacognostic studies of the tuber of *Dioscorea bulbifera*- a bitter yam used in Indian Medicine.	—	CDRS Pharmacognosy Unit, Chandigarh.
14.	Mehra, P.N. Puri, H.S.	Key to the identification of well-known Aconite tubers in India.	—	CDRS Pharmacognosy Unit, Chandigarh
15.	Mishra, R.	A note on the prospects of *Guggulu* cultivation in India with special reference to Rajasthan.	—	Headquarters Office, New Delhi.
16.	Mitra, R. Kapoor, L.D.	Salient pharmacognostic characters of *Varuna* an important drug in Ayurveda.	—	CDRS Pharmacognosy Unit, Lucknow.
17.	Narayanaswami, V.	Studies on calcium gronp of *Bhasma*.	—	Member, Governing Body.
18.	Narayanaswami, V.	Standardisation of *Asava* and *Aristas*.	—	Member, Governing Body.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

19.	Pandey, G.B. Mehta, J.B. Dholakia. M.V.	Studies on *Sandhana* with special reference to *Asavakalpana.*	—	Drug Standardisation Researeh Unit, Junagadh.
20.	Pandey, G.B. Mehta, P.J. Dholakia, M.V.	Standardisation of *Shodhana* process of *Guggulu.*	—	Drug Standardisation Research Unit, Junagadh.
21.	Purushothaman, K.K. Krishna, V.M. Narayanaswami. V.	Chemical examination of *Prashni-parni* structure and sterio chemistry of 'gangetin.	—	Captain Srinivasamurthy Research Institute, Madras.
22.	Purushothaman, K,K. Krishna, V.M. Narayanaswami, V.	Chemistry and Biology of the two South Indian Medicines.	—	Captain Srinivasamurthy Research Institute, Madras.
23.	Satagopan, S.	Identity and market quality of selected Ayurvedic crude drugs.	—	Guidance Mannual, Baroda.
24.	Shah, N,C, Kapoor, L.D.	Identification aud distribution of *Tylophora indica.*	—	CDRS Pharmacognosy Unit, Lucknow.
25.	Singh, N. Kulashresta, V.K. Srivastava, R.K. Kohli, R.P,	A comparative evaluation of Piperine and Nalorphine against Morphine induced respiratory depression and analgesia.	—	CDRS Pharmacology Unit, Lucknow.
26.	Taneja, V. Siddiqui, H.H. Basu, N. Arora, R.B.	Anti-inflammatory studies with *Curcuma longa* with reference to its mechanism and action.	—	Central Research Institute (Unani), Hyderabad.
27.	Tripathi, R.N. Gupta, S.S.	Anti-allergic and antiasthmatic activity of *Curcuma longa.*	—	CDRS Pharmacology Unit, Bhopal.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

28.	Yoganarasimhan, S.N. Bhatt. A.V. Togunashi, V.S.	Preliminary observation on plants of Mysore State.	—	Survey of Medicinal Plants Unit, Bangalore.

Clinical Basearch :

General paper :

1.	Antarkar, D.S.	Hypoglycaemic activity of : *i) Gudoochi* *ii) Saptarangi* *iii) Daruharidra*	2nd National Conference on Diabetes.	Clinical Research Unit, Bombay.
2.	Antarkar, D.S. Nande, C.V.	*Grahini samprapti Avayava Dusti Pradhan.*	Seminar on *Grahini* Poona University, Poona.	Clinical Research Unit, Bombay.
3.	Chaturvedi, D.D.	Aetiology in mental diseases in Ayurveda.	Transactions of All India Institute of Mental Health, Bangalore.	Clinical Research Unit, Bangalore.
4.	Chaturvedi, G.N. Singh, G.	Some clinical effects of *Katuki* compound on the patients of chronic hepatitis.	8th Scientific conference on Indian Medicine, Banasas Hindu University, Varanasi.	Clinical Research Enquiry, Varanasi.
5.	Deshpande P.J.	Treatment of Fistula in-ano by a new technique.	Annual conference of International Academy of Proctology, Sandiego.	Clinical Research Enquiry, Varanasi.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

6.	Deshpande, P.J.	Treatment of Fistula in ano by a medicated thread.	Indian Medical Association, Amaravati.	Clinical Research Enquiry, Varanasi.
7.	Deshpande, P.J.	*Ksharasutra* in the treatment of Fistula in ano.	Extension lectures at Medical College, Nagpura, Poona and Tilak Ayurvedic Mahavidyalaya, Poona,	Clinical Research Enquiry, Varanasi.
8.	Deshpande, P.J.	An ambulatory treatment of Fistula-in-ano a rewiew of 200 cases.	24th annual conference of International College of Surgeons (Indian Section), Nagpur.	Clinical Research Enquiry, Varanasi.
9.	Deshpande, P.J. Sharma, R.R.	Treatment of Fistula-in-ano by an ambulatory method.	32nd Annual Conference of Association of Surgeons of India, Kanpur.	Clinical Rescarch Enquiry, Varanasi.
10.	Dubey, G.P. Singh, R.H.	Studies on *Pippali Vardhaman Rasayana* in the treatement of *Amavata*.	i) Rheumatism ii) Seminar of MML Centre for Rheumatic diseases, New Delhi.	Clinical Research Enquiry, Varanasi.
11.	Kumar, P. Singh, L.M.	Urolithiasis by Indigenous drugs (*Kulatha*).	—	Clinical Research Enquiry, Varanasi.
12.	Majumdar, A.	A most important antirheumatic drug *Guggulu* in rheumatism.	—	Ayurvedic Mobile Research Unit, Varanasi.
13.	Majumdar, A.	Origin and development of pulse science in Ayurveda.	Sachitra Ayurved.	Ayurvedic Mobile Research Unit, Varanasi.
14.	Mishra, D.K.	A clinical survey of 246 cases of *Galaganda*.	Nagarjun.	Clinical Research Enquiry, Hardwar.

CC-0. MUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

15.	Mudgal, V.N.	Studies on the identification of the part of Medicinal value and seasonal variations of the medicinal activity in (*Rasayana*) drugs *Shankapushpi* and *Punarnava*.	60th Indian Science Congress, Chandigarh.	Clinical Research Enquiry, Varanasi.
16.	Mudgal, V N. Srivastava, D.H. Singh, R.H. Udupa, K.N.	Comparative studies on the potentiation of Barbiturate hypnosis and hypotensive action (*Medhyarasayana* effect) in the different parts of the drug *Shankhapushpi*.	Journal of Research in Indian Medicine.	Clinical Research Enquiry, Varanasi.
17.	Prasad, R.A. Singh, L.M. Deshpande, P.J.	Management of *Ashmari* passage of uretric stones by *Kulatha* and *Varuna*.	Journal of Research in Indian Midicine.	Clinical Research Enquiry, Varanasi.
18.	Rajagopalan, S.C. Rao, M.V.R.A. Rao, T.K. Sitaraman, R.	Effect of *Punarnava* on longevity growth and tissue composition of albino rats.	Jeevaka	Dr. A. Lakshmipati Unit for Research in Indian Medicine, Madras.
19.	Ramu, M.G. Venkataraman, B.S.	A critical study of the classification of *Unmada*.	Transactions of All India Institute of Mental Health, Bangalore.	Clinical Research Unit, Bangalore.
20.	Shukla, M.P.	Ayurvedic concept at *Rasayana* therapy and a comprehensive approach to its evaluation.	Indian Journal of History of Medicine.	Clinical Research Enquiry, Varanasi.
21.	Singh, G.	*Rasona* in treatment of *Pakshavadha*.	Seminar of MML Centre for Rheumatic diseases, New Delhi.	Clinical Research Enquiry, Varanasi.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

22.	Singh, R.H.	Role of *Panchakarma* therapy in the management of Rheumatic diseases.	Seminar of MML Centre, for Rheumatic diseases.	Clinical Research Enquiry, Varanasi.
23.	Singh, R.H.	Neurophysiological endocrine and metabolic response to the practise of Yoga.	60th Indian Science Congress, Chandigarh.	Clinical Research Enquiry, Varanasi.
24.	Singh, R.H. Maurya, S.P.	Development of Standrdisation of a new apparatus for accurate measurement of Paw Volume in small laboratory animals.	Indiau Journal of Medical Research.	Clinical Research Enquiry, Varanasi.
25.	Singh, R.H. Jha, V.K. Singh, S.N.	Endocrine and metabolic studies on selective *Panchakarma* therapy.	Journal of Research in Indian Medicine	Clinical Research Enquiry, Varanasi.
26.	Singh, R.H. Settiwar, R.M Udnpa, K.N.	A comprehensive study on the physiological response to a course of Yogic exercise.	59th Indian Science Congress.	Clinical Research Enquiry, Varanasi.
27.	Tyagi, R.K.	*Swasthya Evam Chikitsa Sambandhi Dayitwonka Ayurvedeeya Jnana Dwara Kis prakar Nibhaya ja Sakta Hai.*	Sachitra Ayurveda	Ayurvedie Mobile Research Unit, Varanasi.
28.	Tyagi, R,K, Tyagi, M.K.	*Ayurvedeeya Sadwritha Evam Swastha Vrithake Paripakshme Ek Adhyayan.*	Sachtra Ayurveda	Ayurvedic Mobile Research Unit, Varanasi.
29.	Udupa, K.N. Singh, R.N.	Scientific basis of Yoga.	Journal of American Medical Association.	Clinical Research Enquiry, Varanasi.

CC-0. MUMUKSHU BHAWAN VARANASI COLLECTION. DIGITIZED BY eGANGOTRI
AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

30.	Udupa, K.N. Singh, R,H. Settiwar, R.M.	Studies on physiological endocrine and metabolic response to the practice of Yoga.	Journal of Research in Indian Medicine	Clinical Research Enquiry, Varanasi.
31.	Udupa, K.N. Singh, R.H. Yadav, R.A.	Studies on certain psychological and biochemical response to the practise of Health Yoga.	Indian Journal of Medical Research.	Clinical Research Enquiry, Varanasi.
32.	Venkatraghavan, S. Rao, M.V.R.A. Chandrashakaran, P,V. Holla, B.V. Rao, R.K. Rajagopal, V.	Study of *Prakriti* as an aid to proneness of *Madhumeha*.	—	Dr. A. Lakshmipati Unit for Research in Indian Medicine, Madras.
33.	Verma, M.D. Gode, G.D. Gupta R.C. Singh, R.S. Udupa, K.N.	Studies on the role of *Shankhapushpi Medhyarasayana* in the management of neurogenic thyrotoxicosis.	8th Scientific Conference on Indian Medicine. Banaras Hindu University, Varanasi.	Clinical Research Enquiry, Varanasi.
34.	—	*Ayurvedeeya Mootra Pareeksha.*	Indraprastheeya Ayurvedeeya Sammelana Patrika.	Clinical Rescarch Unit, New Delhi.
35.	—	*Sakthigata Khalli Vataki chikitsa,*	Indraprastheeya Ayurvedeeya Sammelana Patrika.	Clinical Researck Unit, New Delhi.
36.	—	A technique for the study of vascular changes in preserved kidneys.	Indian Journal of Surgery.	Clinical Research Unit, New Delhi.

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37.	—	Effect of Heterologans Dog anti-lymphocyte serum.	Nagarjun	Clinical Research Unit, New Delhi.
38.	—	Descriptive preparation and Hypotensive perfusion.	Nagarjun	Clinical Researeh Unit, New Delhi.
39.	—	Treatment of Diabetes mellitus with an indigenous drug *Madhvasava.*	Antiseptic	Clinical Research Enquiry, Varanasi.
40.	—	Non-ambulatory treatment of fistula-in-ano by a new technique.	Prajna, Banaras Hindu University, Varanasi.	Clinical Research Enquiry, Varanasi.
41.	—	Conservative treatment of Fistula-in-ano.	Nagarjun	Clinical Research Enquiry, Varanasi.

Papers read out in the Seminar of CCRIMH

1.	Antarkar, D.S.	Study of Milk in Ascitis	Clinical Research Unit, Bombay.
2.	Barot, K.C. Mishra, K.N.	*Bilwa patra swarasa* in *Madhumeha.*	CDRS Ayurvedic Team, Ahmedabad.
3.	Bhattacharya, C.	*Guggulu* and *Vataroga.*	Clinical Research Enquiry, Gauhati.
4.	Chaturvedi, G.N. Singh, G,	Some clinical study on *Katuki* compound in treatment of chronic hepatitis (*Yakrit dosha*) with special to *Mala Ranjaka Pitta.*	Clinical Research Enquiry, Varanasi.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

5.	Chaudhary, R.C. Sharma, K.R. Deshpande, P.J.	*Nasyakarma* in supraclavicular diseases.	Clinical Research Enquiry, Varanasi.
6.	Gupta, B.P. Gupta, P.S. Shah, B.S. Shah, P.N. Srivastava, Y.	Evaluation of hypoglycaemic potentiality of *Mamajjaka* (*Enicostemma littorale*).	CDRS Allopathic team, Ahmadabad.
7.	Kasture, H.S. Chaturvedi, G. K. Tiwari, D.N. Shukla, G.N.	*Basti* and *Shoola*	Clinical Research Enquiry, Ahmedabad.
8.	Kuppurajan, K. Rajagopalan, S.S. Rao, T.K. Vijayalaxmi, A.N. Dwarakanath, C.	Effect of *Guggulu* on serum lipids in obese subjects.	CDRS Enquiry (Clinical) Madras.
9.	Mahiskar, V.B.	*Madhumeha* certain observations regarding *Samprapti lakshana* and *Upadravas*.	Clinical Research Unit, Baroda.
10.	Nair, C.P.R.	Effect of *Aragwadha* in skin diseases.	CDRS Ayurvedic Team, Trivandrum.
11.	Pandey, P. Tripathi, S.N. Upadhyaya, Y.N.	Effect of *Bhallataka* (*Semicarpus anacardium*) in *Gridhrasi*.	CDRS Ayurvedic Team, Varanasi.

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12.	Pandey, P. Upadhyaya, Y.N.	A study on anti-histamenic *Vishaghna* effect of *Shireesh* (*Albizzia lebbeck*) in cases of Bronchial asthma.	CDR Ayurvedic Team, Varanasi.
13.	Prasad, R.A. Kumar, P. Singh, L.M.	Management of *Ashmari* passage of uretric stones by *Kulatha* and *Varuna*.	Clinical Research Enquiry, Varanasi.
14.	Shanker, A. Naqui, S.M.A. Gupta M.C.	A clinical trial with *Haridra* (*Curcuma longa*) in non-tubercular respiratory diseases.	CDRS Allopathic Team, Gwalior.
15.	Sharma, Keerti. Goyal, H.R. Sharma, D.N.	A clinical study on *Tamaka swas* (*Bronchial Asthma*)	Central Research Institute, Patiala.
16.	Sharma Keerti, Puri, A.S. Sharma, K.	A clinical study of *Pradara*.	Central Researeh Institute, Patiala.
17.	Sharma, K.R. Sharma, S.K. Deshpande, P.J.	Role of *Kshara sutra* in *Bhagandara*.	Clinical Research Enquiry, Varanasi.
18.	Sharma, V.K. Garg, S.C. Mishra, R.N.	Effect of *Arogyawardhini* in *Medoroga*.	Clinical Research Enquiry, Lucknow.
19.	Singh, R.H. Jha, V.K. Singh, S.N. Upadhyaya, Y.N. Udupa, K.N.	Endocrine and metabolic studies on selected *Panchakarma* therapy in certain Rheumatic diseases.	Clinical Research Enquiry, Varanasi.

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20.	Udupa, K.N. Singh, R.H.	Scientific basis of Yoga.		Clinical Research Enquiry, Varanasi.
21.	Verma, M.D. Singh, R.H. Udupa, K.N.	Endocrine and Metabolic response to *Rasayana* in the aged.		Clinical Research Enquiry, Varanasi.

Literary Research :

General papers :

1.	Rao, B.R.	Haramekhala—English translation of section from Chapter IV.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
2.	Rao, B.R.	A note on Vaidyashastra Shivanubhava in Ayurvedic Manuscript of XVIII Century A.D.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
3.	Rao, B.R.	English translation of Anandakandam, 19tn vilas.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
4.	Rao, B.R.	Parahita Samhita-English translation of select verses from Sadharana kanda.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
5.	Rao, B.R.	A note on Vithal Galand and his works including on un-known work called Vaidyavallabe Samhita.	Institute of History of Medicine Bulletin Vol. III.	Institute of History of Medicine, Hyderabad.
6.	Rao, D.V.P.	Survey of *Astanga hridaya* manuscript I.	Journal of Research in Indian Medicine.	Literary Research Unit, Jamnagar.

AMRUTHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

7.	Reddy, D.V.S.	Legends and observations on Health and Medicine among common people in ancient India-Gleanings in Chaineese travellors in India (V & VI Centuries).	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
8.	Reddy, D.V.S.	Popular belief and practice relating Health and Medicine in VII Cnetury Gleanings from the accounts of Hiouen Thsang.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
9.	Reddy, D.V.S.	A forgotten Chapter in ths History of Syphilis in India in XVI Century.	Institute of History of Medictne Bnlletin Vol. II.	Institute of History of Medicine, Hyderabad.
10.	Reddy, D.V.S.	Tuberculosis in India.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
11.	Reddy, D.V.S.	Medical History in inscription of ancient cave temples of India.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
12.	Reddy, D.V.S	Parahita Samhita—A Sanskrit medical treatise of 15th Century.	Institute of History of Medicine Bulletin Tol. II	Institute of History of Medicine, Hyderabad,
13.	Reddy, D.V.S. Rao, R.B.	A rare Sanskrit Medical Manuseript of early period of Vijayanagar Kingdom.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Mədicine, Hyderabad.

Papers read out in the Seminar of CCRIMH :

1.	Rao, R.B.	Ayurvedic literature in Telugu.	Institnte of History of Medicine, Hyderabad.

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Name of the Projec/Officer	Project/Programmes Research problem (s)
1. Central Research Institute, Cheruthuruthy, Kerala. *Pillai, M.N.K.*	i) Study of Vata. Vatarakta ii) Granthi, Arbuda group of diseases iii) Vishachikitsa iv) Panchakarma chikitsa v) Balavatha vi) Pakshaghata vii) Madhumeha viii) Study of the Chemistry of Vitex negunde and *Putranjeeva roxburghii* ix) Pharmacological study of *Valeriana wallichii*, *Asteracantha longifolia* and *Curcuma zeodaria* x) Activities of Ayurvedic Mobile Clinical Research Unit and study of Sweta pradara with Gokshura modaka and Guda Pippali and Ativishadi churna and Udara krimi
2. Central Research Institute, Patiala Punjab. *Sharma, Keerti*	i) Role of Yoaraja guggulu and Rasona saptak qwath on Amavata ii) Use of Swasakesari (coded drug) in Tamaka swasa iii) Treatment of Medoroga with Guggulu iv) Treatment of Sweta pradara Kashtarthava and Vandhyatwa v) Pharmacorogical study of Yogaraja guggulu. vi) Clinical studies of Surma and Kajal vii) Activities of Ayurvedic Mobile Research Unit and the study of the (a) effect of Deshi ghee on blood cholesterol (b) effect of Chyavananaprasha in school going children.

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		viii) Study the contraceptive potentiality of Talisadiyoga under Family Planning Clinical Screening Programme.
		ix) Study of Swasa under Clinical Research Unit,
		x) Study of Kantakari, Ashwagandha and Guggulu under CDRS programme
		xi) Exploratory efforts to Astadasha samskara of Parada.
3.	Regional Rcsearch Institute, Jaipur, Rajasthan. *Bhatta, G.K.*	i) Amavata and Grahini roga ii) Survey, collection, cultivation and supply of drugs. iii) Activities of Ayurvedic Mobile Research Unit. iv) Cultivation of Guggulu v) Activities of Family Planning Clinical Screening Unit.
4.	Regional Research Institute, Calcutta West Bengal. *Mukherjee, G.D.*	i) Clinical studies under CDRS programme. ii) Study of Madhumeha and Sweta pradara. iii) Activities of Family Planning Clinical Screening Unit. iv) Activities of Survey of Medicinal Plants Unit. v) Activities of Ayurvedic Mobile Research Unit.
5.	Regional Research Institute, Bhubaneswar Orissa *Arya, M.P.S./Nanda, B.B.*	i) Study of Swasa roga and Gridrasi. ii) Activities of Ayurvedic Mobile Research Unit and studies on the effcct of Nityananda rasa in Shleepada. iii) Survey, collection, cultivation and supply of drugs.
6.	Regional Research Centre, Vijayawada. Andhra Pradesh *Shastri, N.V.*	i) Survey, collection, cultivation and supply of drugs.

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		ii) Activities of Ayurvedic Mobile Research Unit and study of Shleepada and Amavata.
7.	Regional Research Centre, Joginder Nagar, Himachal Pradesh. *Sannd, B.N.*	i) Survey, collection, cultivation and supply of drugs. ii) Activities of Mobile Clinical Research Unit and the study on the effect of Musta and Atisara.
8.	Regional Research Centre, Nagpur, Maharashtra *Chaudhary, S.C.*	i) Survey, collection, cultivation and supply of drugs. ii) Activities of Mobile Clinical Research Unit and the study of Raktapradara and Sandhivata.
9.	Survey of Medicinal Plants Unit/Clinical Research Enquiry, Government Ayurvedic College, Gauhati Assam. *Bhattarharjee, S.*	i) Survey, collection, cultivation and supply of drugs. ii) Pureeshajakrimi and its treatment by indigenous drugs.
10.	Survey of Medicinal Plants Unit, Government Ayurvedic College, Patna, Bihar. *Dwivedi N.V.*	Survey, collection, cultivation and supply of drugs.
11.	Survey of Medicinal Plants Unit, Government Ayurvedic Pharmacy College, Rajpipla Gujarat. *Jain M.C.*	Survey, collection, cultivation and supply of drugs.
12.	Survey of Medicinal Plants Unit/Clinieal Research Enquiry, Government Ayurvedic College, Jammu, Jammu-Kashmir. *Sankhyadhar, S.C.*	i) Survey, collection, cultivation and supply of drugs. ii) Clinical studies on the effect of Vijayasara in Madhumeha.

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13.	Survey of Medicinal Plants Unit, Government Ayurvedic College, Trivandrum, Kerala *Nair, M.P.S.*	Survey, collection, cultivation and supply of drugs.
14.	Survey of Medicinal Plants Unit, Government Ayurvedic College, Gwalior. Madhya Pradesh. *Bhatnagar, L.S.*	Survey, collection, cultivatson and supply of drugs.
15.	Survey of Medicinal Plants Unit/Drug Standardisation Research Unit / Ayurvedic Mobile Research Unit, Governt Central Pharmacy Bangalore, Karnataka. *Channabasappa.*	i) Survey, collection, cultivatlon and supply of drugs. ii) Standardisation of Chitraka, Vishamushti, Madhurika, Bilwa Ksheerabala taila and Pinda taila iii) Activities of Mobile Clinical Research Unit.
16.	Survey of Medicinal Plants Unit, Government College of Indian Medicine, Palayam-cottai, Tamil Nadu. *Kumaraswamy, S.*	Survey, collection, cultivation and supply of drugs.
17.	Amalgamated Unit, Raniknet Uttar Pradesh. *Joshi, P.*	i) Survey, collection, cultivation and supply of drugs. ii) Cultivation of Saffron. iii) Breeding of Musk deers. iv) Drug Standardisation prog-ramme.
18	Jawaharlal Nehru Ayurvedic Medicinal Plants Garden, Herbarium and Museum, Poona, Maharashtra. *Fernandez, R.R.*	Experimental cultivation of medi-cinal plants, maintenance of her-barium, garden and Museum.
19.	Captain Srinivasamurthi Re-search Institute, Madras Tamil Nadu. *Narayanaswami, V./* *Purushothaman, K.K.*	A) Standardisation of i) Abhaya ii) Amalaki iii) Draksha iv) Nimba

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v) Amritha
vi) Gokshura
vii) Kumari
viii) Mudgaparni
ix) Agnimantha
x) Bala
xi) Kiratatikta
xii) Mamsarohini
xiii) Priyangu
xiv) Agnitundivati

B) Analytical studies of Surma and Kajal

C) Preliminary standardisation of various types of preparations.

20. Drug Standardisation Research Unit, Ayurvedic Research Institute, Trivandrum, Kerala.
Sreedharan, N/Nair, M.P.S./ Kurup, P.A.

A) Standardisation of
i) Shanknapushpi
ii) Jeevanthi
iii) Shathi
iv) Kataka
v) Manjishta
vi) Moolaka
vii) Arishta preparation
viii) Abhayarista
ix) Amritharista
x) Draksharista
xi) Dashamoolarista
xii) Kumaryasava

21. Drug Standardisation Research Unit/CDRS Pharmacology Unit, All India Institute of Medical Sciences, New Delhi.
Arora R.B.

A) Standardisation of
i) Kumaryasava, A & B
ii) Yogaraja guggulu

B) Pharmacological studies of
i) Semicarbazone
ii) Peruvoside
iii) Musk
iv) Ajmaline

22. Drug Standardisation Research Unit, GAVM Pharmacy, Junagadh, Gujarat.
Pande, G.B.

A) Standardisation of
i) Agnimantha
ii) Ativisha
iii) Bilwa

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		iv) Gambhari v) Sariva vi) Indrayava vii) Jatamansi viii) Pashanabheda ix) Shaliparni x) Mocharasa xi) Amritharista xii) Kumaryasava A & B xiii) Draksharista xiv) Vasavaleha xv) Abhraka bhasma xvi) Method of preparation of a) Asava and Arista b) Avaleha c) Bhasma d) Guggulu
23.	Drug Standardisation Research Enquiry, Academy of Ayurved, Vijayawada, Andhra Pradesh. *Rao, N.H.*	Analysis of coded drugs.
24.	Drug Standardisation Research Enquiry, Government Ayurvedic Pharmacy, Hyderabad, Andhra Pradesh. *Purushotham Dev.*	Standardisation of Draksharista
25.	Drug Standardisation Research Enquiry, Department of Pharmacology. Institute of Medical Sciences, Hyderabad Andhra Pradesh. *Sissodia, P.C.*	Biological Standardisation of coded drugs.
26.	Preliminary Drug Standardisation Research Unit, Department of Modern Pharmacy Gujarat Ayurved University, Jamnagar, Gujarat. *Baxi, A.J.*	i) Preliminary Standardisation of various types of preparation. ii) Analysis of Surma and Kajal.

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27.	Preliminary Drug Standardisation Research Unit, Department of Dravyaguna, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh. *Sharma, P.V.*	Preliminary Standardisation of various types of preparation.
28.	CDRS Pharmacognosy Unit, Indian Drug Research Association, Poona. Maharashtra. *Pendse, G.S.*	A) Pharmacognostical studies of i) *Asparagus* Sps. ii) *Zaleya pentandra* iii) *Moringa pterigosperma.* iv) *Juglans regia* v) *Sesbania grandiflora.* vi) *Ficus carica.* vii) *Spondanis pinnata.* viii) *Nyctanthes arborstritis.* ix) *Cynodon dactylon .* x) *Mesua ferrea* xi) *Boerhaavia diffusa.*
29.	CDRS Pharmacognosy Unit, L.M, College of Pharmacy, Ahmedabad, Gujarat. *Shah, C.S*	A) Pharmacognostical studies of i) *Abrus precatorius.* ii) *Benincasa hispida.* iii) *Gmelina arborea.*
30.	CDRS Pharmacognosy Unit, Ayurvedic Research Institute, Poojappura, Trivandrum, Kerala. *Kolammal, M.*	A) Pharmacognostical studies of i) *Asteracantha longifolia.* ii) *Melia azadirachta.* iii) *Mimosa pudica.*
31.	CDRS Pharmacognosy Unit, National Botanic Gardens, Lucknow, Uttar Pradesh. *Kapoar L.D.*	A) Pharmacognostical studies of i) *Beta vulgaris,* ii) *Ficus tsiela.* iii) *Tephrosia purpurea.* iv) *Albizzia procera.* v) *Albizzia odoratissima.*

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		vi) Supply of drugs to various Units.
32.	*CDRS* Pharmacognosy Unit, Regional Research Laboratory, Jammu, Jammu-Kashmir. *Atal, C.K.*	A) Pharmacognostical studies of i) *Glycyrrhiza glabra.* ii) *Randia dumetorum,* iii) *Zizyphus nummularia.* iv) *Zizyphus jujuba.* v) *Piper neplense.*
33.	CDRS Pharma cognosy Unit, Department of Botany, Punjab University, Chandigarh. *Mehra P.N.*	A) Pharmacognostical studies of i) *Dioscorea bulbifera.* ii) *Acacia leucophloea.* iii) Indjan Aconites.
34.	CDRS Pharmacognosy Unit, Department of Botany, University of Calcutta, Calcutta, West Bengal. *Sircar, S.M./Sharma, A.K.*	A) Pharmacognostical studies of i) *Bacopa monnieri.* ii) *Vitex negundo.* iii) *Vitex trifolia.* iv) *Baringtonia acutangula.* v) *Trapa bespinosa.*
35.	CDRS Chemical Unit, National Chemical Laboratory, Poona, Maharashtra. *Sukha Dev.*	A) Chemical studies of i) *Asparagus recemosus.* ii) *Commiphora mukul.* iii) *Pueraria tuberosa.*
36.	CDRS Chemical Unit, University College of Sciences, Hyderabad, Andhra Pradesh. *Rao, N.V.S.*	A) Chemical studies of. i) *Adhatoda vasica.* ii) *Holarrhena antidysenterica.* iii) *Mesua ferrea.* iv) *Pongamia pinnata.* v) *Feronia limonia.* vi) *Prunus avium.* vii) *Cynodon dactylon.* viii) *Aloe vera.*
37.	CDRS Chemistry Unit, Department of Chemistry, University of Delhi, Delhi. *Sheshadri, T.R.*	A) Chemical studies of i) *Abrus precatorius.* ii) *Didymocarpus pedicilata.*

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iii) *Sesamum indicum.*
iv) *Recinus communis.*
v) *Bergenia ciliata.*
vi) *Daemia extensa.*
vii) *Luffa echinata.*

38. CDRS Chemistry Unit/ Extraction Supply Unit, Department of Chemistry, Kerala Unsversity, Trivandrvm, Kerala.
Warriyar, N.S./Anantaraman, S.

A) Chemical studies of
i) *Calycopteris floribunda.*
ii) *Melia azadirachta.*
iii) *Thespasia populnea.*
iv) *Centrantherum anthelminticum.*
v) *Plumbago zeylanica.*
vi) *Dolichos biflorous.*
vii) *Asteracantha longifolia.*
viii) *Mimosa pudica.*

B) Isolation and supply of different Extracts of plant materials.

39. CDRS Chemical Unit/ Extraction Supply Unit, University College of Science, Calcutta University, Calcutta West Bengal.
Chatterjee. A.

A) Chemical studies of
i) *Sesamum indicum.*
ii) *Alstonia scholaris.*
iii) *Vanda roxburghii.*
iv) *Cryptolepis buchanani.*
v) *Withania somnifera.*

B) Analysis of Surma and Kajal.

C) Isolation and snpply of different extracts of plant materials.

40. CDRS Chemical Unit, Department of Medicinal Chemistry, Institute of Medical Sciences, Banaras Hindu University, Varanasi Uttar Pradesh.
Dasgupta. B.

A) Chemical studies of
i) *Picrorhiza kurroa.*
ii) *Saraca indica.*
iii) *Vanda roxburghii.*
iv) *Pluchea lanceolata.*
v) *Tecomella undulata.*
vi) *Fumaria indica.*
vii) *Crataeva nurvala.*
viii) *Grewia asiatica.*

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41. CDRS Chemical Unity Department of Chemistry, Delhi University, Delhi.

Rangaswamy, S.

A) Chemical studies of
- i) *Nerium indicum.*
- ii) *Withania somnifera.*
- iii) *Gardenia turgida.*
- iv) *Gardenia latifolia.*
- v) *Salaeia prenoides.*
- vi) *Bombax malabaricum.*
- vii) *Soymida febrifuga.*

B) Analysis of Surma and Kajal.

42. CDRS Pharmacology Unit/ Toxicity Studies Unit, Haffkine Institute. Boubay, Maharashtra.

Gaitonde, B.B.

A) Pharmacological studies of
- i) *Boerhavia diffusa.*
- ii) *Pueraria tuberosa.*

B) Toxicity and confirmatory studies of the alleged therapeutic potentiality of Indigenous drugs.

43. CDRS Pharmacology Unit. Haffkine Institute, Bombay, Maharashtra.

Bhide, M.B.

A) Pharmacological studies of
- i) *Berberis aristata.*
- ii) *Adhatoda vasica.*
- iii) *Mesua ferrea.*
- iv) *Aloe vera.*

44. CDRS Pharmacology, Department of Pharmacology, S.M.S. Medical College, Jaipur, Rajasthan.

Sharma, V.N.

A) Pharmacologicai studies of
- i) *Bergenia ligulata.*
- ii) *Eclipta atba.*
- iii) *Abrus precatorius.*

B) Studies on Surma and Kajal.

45. CDRS Pharmacology Unit, Department of Pharmacology Government Medical College, Trivandrum, Kerala.

Radhakrishnan, N.

A) Pharmacological studies of
- i) *Cassia fistula.*
- ii) *Astercantha longifolia.*
- iii) *Plumbago zeylanica.*
- iv) *Mimosa pudica.*
- v) *Thespesia populnea.*
- vi) *Dolchos biflorus.*
- vii) *Salacia prenoides.*

B) Studies on Surma and Kajal.

46. CDRS Pharmacology Unit, Department of Pharmacology

A) Pharmacological studies of
- i) *Nerium indicum*

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	K. G. Medical College, Lucknow, Uttar Pradesh. *Kohli, R.P.*	ii) *Piper langum* iii) *Celastrus paniculata.* iv) *Moringa pterigosperma.* v) *Withania somnifera.* vi) *Hibiscus rosa-sinensis.*
47.	CDRS Pharmacology Unit, Department of Pharmacology, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh. *Das, P.K.*	A) Pharmocological studies of i) *Crataeva nurvata.* ii) *Vanda roxburghii.*
48.	CDRS Pharmacology Unit, Department of Pharmacology, L.H. Medical College, New Delhi, *Mehta, V.L.*	A) Pharmacological studies of i) *Commiphora mukul.* ii) *Withania somnifera.* iii) *Solanum xanthocarpum.*
49.	CDRS Pharmacology Unit, Department of Pharmacology, Gandhi Medical College, Bhopal, Madhya Pradesh. *Gupta, S.S.*	A) Pharmacological studies of i) *Gardenia tuvgida* (*Bharangi*) ii) *Tylophora indica.* iii) *Achyranthus aspera.* iv) *Curvuma longa.*
50.	CDRS Pharmacology Unit, Department of Pharmacology, Dr. B.C. Roy Post Graduate Institute of Basic Medical Sciences, Calcutta University, Calcutta, West Bengal. *Dasgupta, S.R.*	A) Pharmacological studies of i) *Acorus calamns.*
51.	CDRS Clinical Teams, Seth Tarachand Ramnath Charitable Ayurvedic Hospital/ B.J. Medical College, Poona, Maharashtra. *Nanal, B.P./Mutalik. G.S.*	Clinical studies of. i) Shatavari. ii) Shigru.
52.	CDRS Clinical Teams, R.A, Podar Ayurvedic	Clinical studies of i) Kumari.

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	College/J.J. Group of Hospitals, Bombay, Maharashtra. *Lele, M.Y./Vakil, B.J.*	ii) Nagakeshar. iii) Parijata
53.	CDRS Clinical Teams, New Civil Hospital, Ahmedabad, Gujarat. *Barot, K.C./Gupta, O.P.*	Clinical studies of i) Mamajjak. ii) Biiwa. iii) Pashanabhedi bheda.
54.	CDRS Clinical Teams, Government Ayurvedic College/Government Medical College, Trivandrum, Kerala. *Nair, M.P.S./Pai, K.N.*	Clinical studies of i) Nimba. ii) Aragwadha. iii) Lajjalu.
55.	CDRS Clinical Teams, State Ayurvedic College / K. G. Medical College, Lucknow, Uttar Pradesh, *Sharma, V.K,/Gupta, N.N.*	Clinical studies of i) Karaveera. ii) Prasarini. iii) Pippali. iv) Vibhitaki.
56.	CDRS Clinical Teams, Department of Kayachikitsa, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh. *Upadhya, Y.N./Bajpai, H.S.*	Clinical studies of i) Shireesha. ii) Rohitaka.
57.	CDRS Clinical Teams, Central Research Institute (Ayurveda), Government Medical College, Patiala, Punjab. *Sharma, K./Bector, N.P.*	Clinical studies of i) Guggulu. ii) Kantakari. iii) Ashwagandha.
59.	CDRS Clinical Teams. Safdarjang Hospital/All India Institute of Medical Sciences, New Delhi. *Gupta, V.P./Ahuja. M.M.S.*	Clinical studies of i) Bimbi. ii) Guggulu and its fractions. iii) Glycyrrhitic acid.

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60.	CDRS (Clinical) Enquiry, Dr. A Lakshmipati Unit for Research in Indian Medicine, V.H.S. Madras, Tamil Nadu. *Dwarakauath, C.*	Clinical trial of Gum-Guggulu in lipid disorders and obesity.
61.	CDRS (Clinical) Enquiry, Wellingdon Hospital, New Delhi. *Bhist, D.B.*	Clinical trials of Gum-Guggulu in lipid disorders and obesity.
62.	CDRS (Clinical) Enquiry, Maulana Azad Medical College, New Delhi. *Singhal, V.K.*	Clinical trials of Pashanabheda in urolithiasis.
63.	CDRS (Chemistry) Enquiry, Central Drug Research Institute, Lucknow Uttar Pradesh. *Nityanand*	Isolation and supply of different extracts of plant materials.
64.	Toxicology study Unit, L.L.R. Medical College, Meerut, Uttar Pradesh. *Prasad, D.N.*	Toxicity and confirmatory studics of the alleged therapeutic potentialities of the indigenous drugs.
65.	Dr. A. Lakshmipati Unit, for Research in Indian Medicine, Madras, Tamil Nadu. *Sanjeevi. K.S.*	Studies on the i) relation of the Prakriti in Diabetes and Peptic ulcer. ii) Rasayana effect of Punarnava and Ashwagandha. iii) Medhya effect of Mandooka parni. iv) Formulary of simple remedies.
66.	Clinical Research Unit, All India Institute of Mental Health, Bangalore, Karnataka. *Verma, R.M.*	Application of Ayurvedic concepts and treatment in mental disorders.

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67.	Clinical Research Unit, R.A. Podar Research Institute Bombay. Maharashtra. *Antarkar, D.S.*	Effect of dietetic therapy in diseases.
68.	Clinical Research Unit, R.A. Podar Ayurvedic College Bombay, Maharashtra. *Lele, M.Y.*	Effect of Panchakarma therapy in the treatment of Vatavyadhi.
69.	Clinical Research Unit, Arya-vaidyashala, Kottakkal, Kerala. *Warriyar, P.K.*	Clinical studier on i) Shoola group of diseases.
70.	Clinical Research Unit, A & U Tibbia College, New Delhi. *Sharma, B.D.*	Clinical studies on Clinical studies on i) Amavata and Sandhigata vata. ii) Gridhrasi. iii) Parinama and Annadravaja shoola.
71.	Clinical Research Unit, Government Ayurvedic College, Hyderabad, Andhra Pradesh. *Rao, I.S.*	Effect of Amashaya shodhana. in Parinamashoola.
72.	Clinical Research Unit, Government Ayurvedic College, Baroda, Gujarat. *Mahiskar, V.B.*	Clinical studies on. i) Effect of Shilajit on Madhumeha. ii) Ashmari.
73.	Clinical Research Enquiry, Rishikul Ayurvedic College, Hardwar, Uttar Pradesh. *Gupta R. P.*	Aetiopathogenesis of Timira and its management.

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74.	Clinical Research Enquiry, Ayurvedic College, Gurukul Kangri, Hardwar, Uttar Pradesh. *Anandanand*	Aetiopathogenesis of Thyroid swellings and its treatment by indigenous medicines.
75.	Clinical Research Enquiry, State Ayurvedic College, Lucknow, Uttar Pradesh. *Sharma, V.K.*	Effect of Arogyavardhini in medoroga.
76.	Clinical Research Enquiry, Department of Kayachikitsa, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh. *Chaturvedi, G.N.*	Clinical studies on i) Kamala and Yakritroga
77.	Clinical Research Enquiry, Department of Kayachikitsa, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh. *Tripathi, S.N.*	Clinical studies on i) Nidana and Samprapti of medoroga and prameha. ii) Study the role of Guggulu in medoroga and madhavasava in Prameha. iii) Aetiopathogenesis and treatment of Grahini.
78.	Clinical Research Enquiry, Department of Shalya, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh. *Singh L.M.*	Siudy the role of Varuna, Kulatha, and Gokshura in the managcment of urinary calculus
79.	Clinical Research Enquiry, Department of Shalya Shalakya, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh. *Deshpande P. J.*	i) Effect of Ayurvedic drugs on Shodhana and Ropana in wounds. ii) Effect of Ksharasutra on anorectal disorders. iii) Standardisation of principles and techniques of Nasyakarma.

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80.	Clinical Research Enquiry, Surgical Labor0tory, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh. *Udupa, K.N.*	Physiological, endocrine and metabolic response to Rasayana Yoga and Panchakarma therapy.
81.	Clinical Research Enqulry, Department of Dosha Dhatu Mala Vijnana, Seth Tarachand Ramnath Charitable Ayurvedic College, Poona, Maharashtra. *Wadalkar, M.G.*	Study of Prakriti and disease proneness.
82.	Clinical Research Enquiry, Akhandanand Ayurvedic College, Ahmedabad, Gujarat. *Giri, D.T.*	Role of Shodhana in Pittaja kshudra kushta.
83.	Clinical Research Enquiry, Manibehan Gonernment Ayurvedic Hospital, Ahmedabad, Gujarat. *Kasture, H.S.*	Effect of Basti on Shoola.
84.	Clinical Research Edquiry, A.A. Government Hospital, of Indigenous Medicine, Madras, Tamil Nadu. *Rajagopal, T.P.*	Study of Pakshavadha, Gridhrasi and Apabahukam.
85.	Ayurvedic Mobile Research Unit, Undergraduate College, Gujarat Ayurveda University, Jamnagar, Gujarat. *Joshi, S.T./Shukla, C.P.*	i) Skin disorders ii) Estimation of blood cholesterol in normal and disease state. iii) Other activities of Ayurvedic Mobile Research Unit.
86.	Ayurvedic Mobile Research Unit, New Civil Hospital, Vidisha, Madhya Pradesh. *Singh N.*	i) Estimation of blood cholesterol level in vegetarians and non-vegetarians.

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		ii) Other activities of Ayurvedic Mobile Research Unit.
87.	Ayurvedic Mobile Research Unit, Department of Kayachikitsa, Institute of Medical Sciences, Banaras Hindu University, Varanasi Uttar Pradesh. *Upadhyaya, Y.N.*	i) Effect of Bilwadi churna in Pravahika. ii) Studies on the prevalence of Madhumeha. iii) Other activities of Ayurvedic Mobile Research Unit.
88.	Ayurvedic Mobile Research Unit, Documentation Section CCRIMH/Shri Krishna Ayurvedic College, Kurukshetra, Haryana. *Pandey, V.N./Sharma, P.P.*	i) Effect of Ghee and other saturated fats on serum cholesterol level. ii) Other activities of Ayurvedic Mobile Research Unit.
89.	Collection of Source Material, Moolchand Khairatiram Hospital, New Delhi. *Shastri, Haridutta.*	Collection of Source Material from Charaka samhita and commentaries.
90.	Collection of Source Material Ayurvedic College, Varanaseya Sanskrit Vishwavidyalaya, Varanasi, Uttar Pradesh. *Dwivedi, V.N.*	Coilection of Source Material from Susruta samhita.
91.	Collection of Source Material, Sri Baidyanath Ayurved Bhavan Private Limited, Patna. Bihar. *Pathak, R.P.*	Collection of Source Material from Nyaya and Vaisheshika darshanas.
92.	Collection of Source Material, Shiromani Press, Berhampur, Orissa. *Sharma, A.T.*	Collection of Source Material from Ramayana and Rigveda.
93.	Literary Research Unit, T.M.S.S.M. Library, Thanjavur, Tamil Nadu. *Pillai, Kandaswamy*	Literary studies of i) Bhela samhita ii) Chikitsamrita sagar.

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		iii) Ashtanga hridaya iv) Charaka samhita.
94.	Literary Research Unit, Gujarat Ayurveda University, Jamnagar, Gujarat. *Thakkar, V.J.*	Literary studies of i) Ashtanga hridaya ii) Ashtanga sangraha.
95.	Guidance Manual, Drug Research Laboratory, Baroda, Gujarat. *Satakopan, S.*	Preparation of guidance manual for identification of drugs.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Science of Yoga is practised in this country since ages. Yoga is considered a source of inspiration for one and all and has spread beyond the frontiers of this continent. Several attempts have been made in the past by the people within the country and abroad to have a clear understanding of Yoga philosophy and Yoga methods of therapy. Scientific evaluation has been attempted to understand its role in maintenance of health and treatment of diseases. Some of the common diseases which have been evading therapeutic solution like diabetes, bronchial asthma, certain gastro-intestinal disorders, joint troubles have been taken up. In case of diabetes, stress is laid on Yogic kriyas like kunjal, sankhprakshalana, specially stomach exercises of suksmavyayama, ardha-matsyendrasana, matsyendrasana, paschimottanasana, bhunjan-gasana, ustrasana, chakrasana, badh-padmasana and tadaqri mudra. In case of asthma, vastra-dhauti. kunjal, sutra-neiti, kapalbhati, breathing exercises of suksmavyayama, bhujangasana with breathing, gomukhasana, and urdhva-sarvangasana are given a trial.

Cases of arthritis are benefitted by shankhprakhsalana, kunjal, all exercises of suksmavyayama, vajrasana, garudasana, sankatasana, paschimottanasana, ushtrasana, bhunamsasana and dhanurasana. Gastro-intestinal troubles responded well to Yogic kriyas like kunjal, sankhpraks-halana, baghi, stomach exercises of suksmavyayama, hrd-gati, utkurdana, vasrasana, mandukasana, supta-vajrasana, uttanpadasana, ushtrasana, chakrasana, matsyasana, supta-pavanmuktasana, bheda-padmasana, and mayoorasana.

In all instances, biochemical and pathological investigations are made for diagnostic purposes as well as for assessment of the traetment. The response has been encouraging to a considerable extent in case of asthma, gastro-intestinal troubles and arthritis. Cases of diabetes have recorded improvement to the tune of 70%. Cases of psoriasis, idiopathic, epilepsy, hypertension have also shown recognisable improvement. The patient of psoriasis is put on rechak-poorak followed by bhastrika and kapalabhati. In cases of epilepsy, rechak-poorak, bhastrika, kapalabhati, kumbhak pranayama, sarvangasana and seershasana are followed.

Another interesting feature is the application of Yogic methods of treatment in correcting the refraction errors. The treatment consisting of jiwan talwa exercises (giving manipulation to the entire spinal column duration being 7 minutes) frogposture (rolling on back) nadi sanchalan

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(giving lateral movement to spine in sitting position) sarvangasana shirshasana and from Kriyas side neti (string system) jalakriya, gajkarni with milk and gazing at the flame of mustard oil is provided. Yoga therapy produced a significant decrease in serum cholesterol level and as such it is considered a useful therapeutic regimen in cases of arteriosclerosis. Yogic exercises stimulate various endocrine glands particularly those involved with stress physiology.

Broadly speaking Yoga practice provided a feeling of well being, better performance reduction in aggression, depression and irritability.

The research has opened new frontiers in the therapeutic field and has been conducted with grant from the Council.

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S. No.	Author (s)	Title	Publications/Participations	
			Journals/Seminar Conference	Name of the Unit
1	2	3	4	
General	—	—	—	—

Paper read ont in the Seminar of CCRIMH

1.	Anandanand Swami Varandani, L. N. Dharmavira	Diabetes and Yoga.	—	Clinical Research Unit, Ahmedabad.

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Name of the Project/Officer.	Research problem (s)
1. Yoga Research Centre, Vishwayatan Yogashram, New Delhi. *Brahmachari Dhirendra*	Effect of Yogic therapy in the treatment of diabetes, asthma, rheumatoid arthritis and gastro-intestinal disorders.
2. Patanjali Yoga Research Institute, Hyderabad. Andhra Pradesh. *Melkote G.S.*	The curative effect of Yoga techniques. particularly Pranayama on diseases like Psoriasis, idiopathic epilepsy, hypertension, diabetes, respiratory allergies etc. and assessment of improvement in health and efficiency in normal healthy individuals pertaining Yoga.
3. Delhi Yoga Sabha, Delhi. *Soni, K.P.*	Refraction errors of Eye and diseases of ear, nose and throat.
4. Yoga Sadhanashram, Ahmadabad, Gujarat. *Manuvaryaji*	The effect of Yogic therapy on Dyspepsia and hyperacidity.
5. Yogic Treatment cum Research Centre. Jaipur Rajasthan. *Veer Dharma*	Eyaluation of Yoga therapy in bronchial asthma and chronic colitis.
6. Shivanand Math, Gauhati, Assam. *Saraswathi Shivanand*	Research on coronary heart diseases and hypertension.

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The organisational aspect of the Central Research Institute is almost complete. The clinical work on the following disceases has been taken up last six months back ;—

1.	Bars	Leucoderma
2.	Nazla-e-Mnzmin	Chronic Cattarah
3.	Sailan-ur-Reham	Leucorrhoea
4.	Yarqau	Jaundice
5.	Warm-e-Kuliya	Nephritis

Though it is too short period to advance conclusions, yet it is indicated that rcsults have been eneouraging in the treatment of Bars and the cases of Nazla-e-Muzmin and Sailan-ur-Reham are progressing with the approach.

Out of over 600 patients that visited Central Research Institute, Hyderabad of different cases, about 45 cases have been admitted to in-patient wards for detailed investigation and study on the lines described in treatises. About 30 cases have been so far studied, Zulal has been proved to be effective in the treatment of Bars and this promising lead can be confirmed when a large number of cares are studied and followed for a fairly long period.

In other cases there are only a few patients and work has got to go on further before advancing any opinion.

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Drug Research

Survey of Medicinal Plants

Survey of Medicinal Plants at Rajouri Doda (both of Jammu province) and Baramullah (Srinagar province) has been surveyed to a considerable extent. 219 species commonly used in Unani System of Medicine have been identified. A museum containing 87 drugs is maintained. About 115 species described in Unani system of medicine are also being cultivated in the Garden. Some of the commonly used Unani drugs have been supplied to different research projects.

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Pharmacoepial Standards

The Council completed drug standardisation of Habbul Aas (*Myrtus communis*) pharmacognostic, chemical and allied aspects are fully covered. The work on Afsanteen (*Artimisia absanthium*) Tukhm-e-Kasoos (*Cuscuta reflexa*) is in progress on similar lines. Botanical identification of Badawerd (*Fagonia arabica*) and Barhamdandi (*Amberboa racemosa*) has been completed.

The studies based on history, names, identification, standardisation, uses, indication and pharmaceutical preparations of drugs Afsanteen, Kasoos, Izkhar, Zoofa, Badranjboya and Gaozaban have been undertaken. The Unit is simultaneously doing documentation of literature on single drugs in addition to the pharmacognostic and chemical studies.

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Vajaul Mufasil (Rheumatoid arthritis) and Zeekun Nafs (Bronchial asthma) have been taken up under this programme. The drugs chosen for these clinical entities are as follows :—

1. Vajaul Mufasil (Rheumatoid arthritis)
   - i) Shambali (*Vitex negundo*)
   - ii) Gulbail (*Tinospora cordifolia*)
   - iii) Suranjan (Colchieum) This is not under trial for present.
2. Zeekun-Nafs (Bronchial Asthma)
   - i) Gajga (*Caesalpinia bonducella*)
   - ii) Karanj (*Pongamia glabra*)

The role of following Majoon-e-Zeekh (Researeh formula) is under trial.

i)	Alsi	1	part
ii)	Maithi	2	parts
iii)	Seer	3	parts
iv)	Chilbeenj	6	parts (Fried and powder)
v)	Honey q. s.	24	parts

The following table provides at a glance the therapeutic results in the conditions chosen :—

	Male	Female	Total	Complete relief	Partial relief	No relief	Yet remaining	Total
Vajual Mufasil	32	63	95	61	17	12	5	95
Zeekun-Nafs	59	30	89	43	26	19	1	89

The Council is conducting clinical research in Unani System on Kasrat-e-Tams (Menorrahagia), Zaheer-e-Muzmin and Zusantaria Mevi (Chronic Dysentery and Colitis), Hisatul Kuliya-o-Masana (Renal and Bladder Calculus).

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The following table indicates the drugs chosen in these conditions:—

Name of the drug	Clinical condition
1. Tukhme Bartang (*Plantago major*)	1. Kasrat-e-Tams (Menorrahagia)
2. Post Bekh-e-Madar (*Calotropis gigantea*)	2. Zaheer-e-Muzmin and Zusantaria Mevi (Chronic Dysentery and Colitis)
3. Hajrul Yahood (*Fossil Encrinite*)	3. Hisatul Kuliya-o-Masana (Renal and Bladder calculus)

The studies have been conducted both in out-patient and in-patient departments.

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The Council has taken up editing and translating of rare original classics, books etc. on Unani Tibb. The following works are in progress :

1. *Kulliyat-e-Ibn-e-Rushd* : It has already been transcripted and is now beig translated. The translation work has been completed upto 104 pages.

2. *Kitabul Umda Fil Jarahat.* The Urdu translation of the 1st volume has been completed and now the revision of the same has been completed upto 82 pages. Translation of the 2nd volume has also been started.

3. *Jamu-e-Ibn-e-Baitar*: Translation work in Urdu has been just started and 20 pages have completed.

4. *Kitabul-Abdal*: This book has been completed in all respect i.e. edition and translation in Urdu as well as in English. The additional notes including the biography of the author in both the languages has been completed. To make it more comprehensive and useful it is proposed to include the illustrations from the Kitabul Hashaish and frow modern books on Botany.

Steps have been taken to edit Avicenna's Canon and as a first step one of the chapters of this work dealing with cardiae diseases has been taken up. The Biographieal data connected with *Ibn-n-Nafis*, author of Sharah-ul-Qanoon has been taken up. Preparatlon of a critical edition of Al-havi is in progress. Urdu translation of 'Judia' of Ibne-Sina has been completed. Material to prepare a biographical note on the author of Kitab-ut-Taiseer is being collected.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Publications/Participations

S. No.	Author (s)	Title	Journals/Seminar Conference	Name of the Unit
1	2	3	4	5
Drug Research :				
General:	NIL			
Papers read out in the Seminar of CCRIMH:				
1.	Israeli, A.H. Khan, A.J.	*Itriphala* through ages		Drug Standardisation Research Unit, Delhi.
Clinical Research:				
General:	NIL			
Papers read out in the Seminar of CCRIMH:				
1.	Hussain, A.	*Vajaul Mufasil* (Rheumatoid arthritis)		Clinical Research Unit. Madras.
2.	Mohiddin, S.G.	*Zeekum-nap* (Bronchial asthma)		Clinical Research Unit, Madras.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1	2	3	4	5
Literary Research:				
General:				
1.	Pasha, A.M.	A golden page in the History of Unani Medicine in Islamic countries.	All India Unani and Tibbia Conference Bangalore.	Institute of History of Medicine, Hyderabad.
2.	Pasha, A.M.	English translation of Zia-ul-Uyoon. A manuscript treatise on Ophthalmology by Aynul Mulk Sheeraji of Akbar's Court.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
3.	Pasha, A.M.	Zad-e-Gereeb. Translation of contents into English from Persian (II, III & X Chapters).	Institute of History of Nedicine Bulletin Vol II.	Institute of History of Medicine, Hyderabad.
4.	Pasha, A.M.	A note on the Book Tohfetul Mulk (A gift for the using).		
5.	Pasha, A.M.	A note on the manuscript Mayarul Atibba(A standard book) for the Physicians.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
6.	Pasha, A.M.	Tahqeeq-ul-Buhran, Ashort note on the manuscript.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1	2	3	4	4
7.	Pasha, A.M.	Brief Biographies of eminent Unani Hakims in India.	Institute of History of Medicine Bulletin Vol. III.	Institute of Hlstory of Medicine, Hyderabad.
8.	Reddy, D.V.S.	Hakeem Ahmadullah Khan, Bahadur Malik'l-Hukama.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.

Papers read out in ihe Seminar of CCRIMH:

1.	Jhajri, M.A.	Review and introduction of the Maulijat Buqratia.	Ex-Member, Scientfic Advisory Board (Unani).
2.	Pasha, A.M.	History of Unani Medicine in India.	Institute of History of Medicine, Hyderabad.

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MUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Name of the Project/Officer	Project/Programme Research problem (s)
1. Central Research Institute, Hyderabad, Andhra Pradesh. *Khadeer, A.A.*	i) *Bars* ii) *Nazla-e-muzamin* iii) *Sailan-ur-Reham* iv) *Yargan* v) *Warm-e-Kuiiya*
2. Drug Standardisation Research Unit, Institute of History of Medicine and Medical Research, Delhi. *Israli, A.H.*	i) *Habbul Aas* ii) *Afsanteen* iii) *Tukm-e-Kasoor* iv) *Bad-awerd* v) *Brahmadandi* vi) *Kasoor* vii) *Izkhar* viii) *Zoofa* ix) *Badranjboya* x) *Gaozaban*
3. Survey of Medicinal Plants Unit, Government Ayurvedic College, Jammu, Jammu & Kashmir. *Sankhyadhar, S.C.*	i) Survey and collection, cultivation and supply of drugs.
4. Clinical Research Unit, A.A. Hospital, Madras, Tamil Nadu. *Subhan. S.A.*	i) *Vajaul Mufasil* ii) *Zeekhun Nafs*
5. Clinical Research Unit, A & U Tibbia College, New Delhi. *Sharma, B.D.*	i) *Kasrat-e-Tamas* ii) *Zaheer-e-Muzmin* iii) *Zusantaria Mevi* iv) *Hisatul Kuliya-o-Masana*
6. Literary Research Unit, Takmil-ut-Tibb College, Lucknow, Uttar Pradesh. *Shamshi, S.A.*	i) *Kulliyat-e-Ibn-e-Rushd* ii) *Kitabul-Umda Fil Jarahat* iii) *Jama-e-Ibn-e-Baitar* iv) *Kitab Abdul*
7. Literary Research Unit, Ajmal Khan Tibbia College, Aligarh, Uttar Pradesh. *Hasib, H.A.*	i) *Avicenna's Canon* ii) *Ibn-n-Nafis* iii) *Al-havi* iv) *Judia*

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

The Central Research Institute for Siddha was mainly in the process of being organised and equipped for the greater part of the current year by setting up of the different sections and procurement/installation of essential laboratories and equipment. The out patient department started functioning after organising the Pharmacy Section to cater to the medicinal requirements, on the 26th May, 1972. The in-patient department started functioning from 16th August, 1972. The total number of cases in the out patient department during the year was 8737—new cases being 2058 and old cases 6679. The daily average which was 6 in June, 1972 rose to 58 in March, 1973. The total number of cases treated in the in-patient department was 47—37 of *Gunmam* (peptic ulcer), 9 of *Putru noi* (Cancer) and 1 of *Manjal Kamalai* (Jaundice).

The Biochemistry section was set up in November, 1972. The section also attends to the work of the Ayurveda, Siddha and Unani Clinical Research Units functioning at the Arignar Anna Hospital, Madras.

The Pharmacological Section was established in January, 1973 and animal experiments have been started. The Drug Standardisation Unit for Siddha could not be established for want of sufficient accommodation.

Preliminary studies in *Valigunman* (peptic ulcer) and *Putru noi* (Cancer) are in progress. The medicines are prepared at the Pharmacy attached to the Central Research Institute and some medicines are also purchased from the Indian Medical Practitioners Co-operative Pharmacy and Stores Ltd., Madras. The chemical analysis of these medicines are carried out at the Captain Srinivasamurthi Research Institute.

Over 8000 patients attended the Central Research Institute, Madras during the year under review. About 40 patients were selected for detailed studies based on concepts of Siddha System of Medicine. Trial of *Thambira chindooram* in *Valigunmam* and *Vanga parpam* and *Lingarasa parpam* in *Putrunoi* have been taken up and it will be necessary to make further studies to indicate the role of these in the therapeutics of these diseases.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Drug Research

Survey of Medicinal Plants

The Survey of Medicinal Plants Unit, at the Government College of Indian Systems of Medlcine, Palayamcottai, lays emphasis on survey, eollection, identification, preparation of herbarium sheets of plant drugs extensively used in Siddha system. The Unit also supplies genuine plant drugs available only in Tamil Nadu to other research Units/Institutions functioning under the Council. Of a total of 19 forest divisions in the State, the Unit has partially surveyed 9 forest divisions, comprising 22 hills and forest ranges during the year. A special survey programme based on a single drug study was undertaken with regard to the potential resources of the drug *Rasault* from the medicinal plants of Tamit Nadu. As many as 7 different plant species which are reported to contain major alkaloidal ingredient of *Rasanjana* (berberine) have been identified.

The Unit also undertook an extensive survey and compilation of folk-lore claims from a large number of Siddha Vaidyas from different regions of Tamil Nadu. These provide valuable information about the medicinal utility and therapeutic uses of valuable herbs.

Rare specimen of 103 plants and plant products have been collected during the survey tours and preserved in the museum for display. A small experimental garden containing 210 species of medicinal plants is being maintained for making available plant material for pharmacognostical and other types of research work. An attempt has also been made to introduce and acclimatise some rare species of high altitudes.

Pharmacognostic study to establish the identity of the drug *Azhukunni* of Siddha system and *Rudanti* of Ayurvedic system is nearing completion.

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Standardisation of single drugs used in Siddha System of Medicine have been undertaken. During the year 1972-73, the following drugs were taken up for investigation :

I. Mineral Drugs

1) *Thalakam* (raw and purified)
2) *Manosilai*
3) *Gandhakam* (raw and purified)
4) *Padarasam* (raw and purified)
5) *Pooneer*
6) *Nandukkal*
7) *Svedhapashanam*
8) *Lingam* (raw and purified))
9) *Veeram*) Carried forward from 1971-72.
10) *Pooram*)
11) *Gowripashanam*)

II. Plant Drugs.

1) *Serankottai* (*Semecarpu's anacardium*)
2) *Kuppaimeni* (*Acalypha indica*)
3) *Azhuhunni* (*Gressa cretica.*)
4) *Nabi* (*Aconitum* Sp.)
5) *Iruvi* (*Dryopeteris Filix*)

Analytical work on *Serankottai*, *Kuppaimeni*, *Azhukunni*, *Sivanarvembu* and *Malaivembu* have been completed to obtain extractive values in various organic solvents, determination of organic and inorganic constituents, thin layer characteristics of the various cxtractives in different solvent systems, determination of ash content of the drugs and their solubility in water and acids as also to isolate their active principles.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

The Clinical Research studies commenced on the following diseases recently.

1. *Sandhivathasoolai* (Rheumatoid arthritis)
2. *Kalanjapadai* (Psoriasis)

The medicines were selected for the above diseases by the Scientific Advisery Board.

1. *Sandhivathasoolai*

   i) *Amber mezhuyu* (internal use)

   ii) *Kukil Thylam No. 2* }
   iii) *Myna Thylam* } For external application.
   iv) *Moosambarappattru* }

2. *Kalanjapadai* (Psoriasis)

   i) *Rasagandhi mezhugu* (internal use)

   ii) *Sivappu Ennai* (for external application)

The medicine that are selected contain mercury and its compound salts along with a view power drugs of vegetable and animal origin. This has tendency to improving the vital capacity of tissues.

64 cases of *Sandhivathasoolai* and 10 cases of *Kalanjapadai* were also treated, Varying degrees of improvement have been noticed.

The work on *Kalanjapadai* showed that it has need for further work.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

"Bogar Nigandhu" which is in verse form is translated into prose. Descriptive catalogue was prepared for 185 cudjan leave literature collected through field survey. Balasasthram comprising 657 stanzas were also copied from manuscripts.

A study has been undertaken on "Pothikasalapathi sagala kalaikiyanam 1200" which deals with fundamental principles of Siddha, formulate, muppu, mezhugu and chunnam etc. which are vital subjects for study and understanding of the Siddha system. 93 cudjan manuscripts have been obtained free of cost during the various survey tours during the year.

The work entitled "Theran Yamaga Venba" which has been completed is awaiting publication. "Bogar Nigandhu" which has been completed is to be compared with other works on the same subject available at the Madras Oriental Library and the Saraswati Mahal Library before undertanking publication.

The cudjan manuscripts of an important nature are in the process of microfilmirg.

Work on Bhogar Mooligai Thokuppu, Brahmamuni Vaidyam, Konkanar Mudalkandam, Nadukandan and Kadaikandam, Agasthiyar Gunavagdam is in progress.

A descriptive catalogue of Tamil Palm leaf medical manuscripts and printed medical books is under compilation.

The Unit undertook 11 field surveys during the year, in the course of which 148 printed books and 37 copies volumes have been obtained as gift and the manuscripts and 30 printed books have been purchased.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

S. No.	Author (s)	Title	Publications/Participations Journals/Seminars conference	Name of the Unit
1	2	3	4	5
	Drug Research :			
	General papers :			
1.	Mahalaxmi, V. Narayanaswami. V.	*Nandukkal*	Journal of Research in Indian Medicine	Capt. Srinivas Murthy Research Institute Madras.
2.	Purushothaman, K.K. Chandrashekharan, S. Mahalaxmi, V.	Chemical investigation of *Rudanti*	Journal of Research in Indian Medicine.	—do—
3.	Purushothaman, K.K. Sharada, K. Narayanaswami, V.	*Thuthuvali*	Journal of Research in Indian Medicine.	—do—
4.	Purushothaman, K.K. Sharada, K. Narayanaswami, V.	*Imbural*	Journal of Research in Indian Medicine.	—do—
	Papers read out in the Seminar of CCRIMH :			
1.	Kumaraswamy, R.	Pharmacognostical studies on the Siddha drug *Irvi.*		Survey of Medicinal Plants Unit, Palayam cottai.

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1	2	3	4	5
Clinical Research :				
General :				
Papers read out in the Seminar of CCRIMH :				
	1. Parvathy, V.L.	*Pada Vanmeegum*		Member, Governing Body.
	2. Shanmughavelu, M.	Rheumatic copmlicated Heart and Indian Medicine.		Ex-Member, Scientific Advisory Board.
Literary Research :				
General :				
	1. Palanichamy, K.	Basic principle of Siddha Medicine.	Institute of History of Medicine Bnlletin Vol. II.	Institute of History of Medicine, Hyderabad.
	2. Palanichamy, K.	Siddha Medical works attributed to Thiruvalluvar.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
	3. Palanichamy ,K.	Printed medical works attributed to Agasthiyar.	Institute of History of Medicine Bulletin Vol. III.	Institute of History of Medicine, Hyderabad.
	4. Palanichamy, K.	Advice on Family Planning in old Tamil Medical Manuscripts.	Institute of History of Medicine Bulletin Vol. III.	Institute of History of Medicine, Hyderabad.
	5. Reddy, D.V.S. Palanichamy K.	An introduction to the Medical Bibbliogrophy of Siddha System of Medicine.	Institute of History of Medicine Bulletin Vol. III.	Institute of History of Medicine, Hyderabad.

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1	2	3	4	5
6.	Reddy, D.V.S. Palamichamy, K.	Health disease, physician and medicine in Tirukkural.	Institute of History of Medicine Bulletin Vol. II.	Institute of History of Medicine, Hyderabad.
	Fapers read out in the Seminar of CCRIME :			
1.	Gurusiromani, P.	Aims and scope of Sidhha Literary Research.		Literary Research Unit, Palayameettai.
2.	Palanichamy, K.	An examination on the names of the authors and of Titles of compilation in Tamil Manuscripts on Siddha System of Medicine.		Institute of History of Medicine, Hyderabad.
3.	Palanichamy, K.	Printed Medical Literature on Siddha System of Medicine.		Institute of History of Medicine, Hyderabad.
4.	Palanichamy, K.	Mauuscript literature in Tamil on Siddha System of Medicine.		Institute of History of Medicine, Hyderabad.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Project/Programme Name of the Project/Officer	Research problem(s)
1. Central Research Institute, Madras, Tamil Nadu. *Thyagarajam, R.*	i) Study of *Valigunmum* and *Putrunoi*
2. Captain Srinivasamurthy Research Institute, Madras, Tamil Nadu. *Narayanaswamy. V./ Purushothaman, K.K.*	i) *Talakam* ii) *Manasilai* iii) *Gandhakam* iv) *Padarasam* v) *Pooncer* vi) *Nandukkal* vii) *Svedhapashanam* viii) *Lingam* ix) *Veeram* x) *Gauripashanam* xi) *Seramkottai* xii) *Kuppaimeni* xiii) *Azhukkunni* xiv) *Nabi* xv) *Iruvi*
3. Survey of Medicinal Plants Unit, Government College of Indian Medicine, Palayamcottai, Tamil Nadu. *Kumaraswamy, R.*	Survey, collection, cultivation and supply of drugs.
4. Clinical Rcsearch Unit, A.A. Hospital, Madras, Tamil Nadu. *Balasubrahmanyan, G.*	i) *Sandhivatasoolai* ii) *Kalanjapadai*
5. Literary Researeh Unit, Government College of Indian Medicine, Palayamcottai, Tamil Nadu. *Gurusiromani, P.*	i) *Bogar Nighandu* ii) *Balasastham* iii) *Pothikasalapothisagala Kalaikiyanam—1200* iv) *Theran Yamaga Vemba*

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6.	Literary Research Unit, T.M.S.S.M. Library, Thanjavur, Tamil Nadu. *Pillai, Kandaswamy.*	i) Survey of literature ii) *Bogar Mooligai Thokuppu.* iii) *Brahmamuni Vaidyam* iv) *Konkanar Mudalkandam.* v) *Nadukandan* and *Kadaikandam* vi) *Agasthiyar gunavagdam*

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

The Cnetral/Regional Research Institute carry out research on a wide range of problems of basic and applied nature. The basic research is expected to unravel various physiological mechanisms as well as elucidation of fundamental principles and their applications in terms of diseases. Homeopathy can no longer be considered as merely a science dealing with onley diseases and their treatment as such any venture has essentially to consider change in pattorn of society, methods of living, needs and demands. These Institutes and other smaller research Units while conducting research on selected problems of national importance attempt to look into various facets and aspects of health and disease. Institutional approach provides scope for multi-disciplinary studies and their proper coordination.

It was the desire of the Government of India to study and compare the efficacy of Homoeopathic drugs in respect of certain common ailments where the modern medcine utilises the highly potent antibiotics and chemico therapeutic measures which are not fully suitable to our country in view of the prohibitive cost. Facilities for basic and applied research are made available and the work in the long run is sure to reward the country with therapies of unfailing nature.

Drug Research

Under this programme standardisation of crude drugs, Drug Proving, Clinical and experimental verification of drug effects are taken up.

1. Drug Standardisation

The best of the results of clinical approach call for using of genuine and authentic drugs. This brings to forefront the need for laying proper standards for drugs to be used. There are two types of standardisation i. e. (i) to standardise the available drug material in order to obtain drug of good quality and secoundly to introduce subtitute indigenous drugs which have similar effects. India is one of the largest importers of Homoeopthic crude drugs and potencies. With a huge herbal wealth, there is an importive need to see how best the local plant wealth can be used advantageously. This can be possible through planned efforts like this.

2. Drug Proving

Homoeopathic Drug Proving is a process of exprimenting with drugs on human beings for ascertaining possitive effects of drugs on

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

human individuals, There are over two thonsand drugs in Homoeopathic materia medica and only about eight hundred of them are partiaily or fully proved. Since the therapeutic potentiality depends upon the drug's ability to produce changes in the healthy individual, proving of drugs become an important aspect of research. It was felt necessary therefore, to take up for proving unproved and empirically used drugs in order to bring out the hidden treassurees of therapeutic potentiality Herbal wealth of our country is enormous and this must be tapped in order to increase the therapeutic range of our materia medica. It is, therefore, essential that work on drugs that are available in this country need to be carried out with reference to their characteristic action and medicinal effects on the human systems. It will also help to explore the possibility of finding suitable substitutes for imported ones. Further, this helps in attempting a rational explanation for variety of drugs which can well be incorporated in Pharamacopoeia.

3. Clinical verification

The new drugs proved through the Drug proving Unites are put for intense study through clinical evaluation unites so that valid data of value will be available.

4. Experimental verification.

Experimental studies to assess the contraceptive and other potentialities of certain drugs used in Homoeopathy have been taken up so that the Homoeopathic armamentarium may be enriched.

Clinical Research

Clinical Research helps in the elucidation of the fundamental principles and their application in the treatment of various diseases, It covers research in to the mehanism of causation of disease, of its prevention and its cure and introduces new drug material. The diseases are investigated on the Hahnemannian principles in terms of concepts and doctrines ennuciated in Homoeopathy and on the basis of the description in the works of Homoeopathy for a proper understanding of the mechanism of its onset. It is, therefore, incumbent that different aspects of the clinical examination of the patient and the disease should be investigated throughly. The clinical research should clarify the lines and methodes of diagnosis and treatment of diseases as mentioned in the works of Homoeopathy and also should help in critical appraisal of theory of Pathogenesis, symptomatology, clinical methods of diagnosis and prognosis, lines and methods of treatment and the drug/ its posology and diet therapies particular to the system of medicine.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

The Central Research Institute at Calcutta was entrusted with the study of effect of certain indigenous drugs in the treatment of amoebiasis, and the possible steps that can be taken to explore therapeutic potentiality of these indigenous drugs so that it will be possible to put to use local medicinal wealth. *Cynodon dactylon, Atista indica, Holarrhena antidysenterica* have been taken up for study in the treatment of amoebiasis. A series of 113 confirmed cases have been studied.

The results with *Cynodon dactylon* and *Atista indica* showed statistically significant response at 1% level and they may be helpful additions to the homoeopathic therapeutics in amoebiasis, both in the intestinal form and early amoebic hepatitis. The results with *Holarrhena antidysenterica* also seem to point a promising response but however, it is considered that further work is necessary.

The O.P.D. of this Institute is popular and about 36000 patients of different diseases, attended. This includes about 7004 new cases. The out patient department helps to a large extent to choose suitable cases for in patient studies.

Drug Standardisation programme is also in progress. Three indigenous drugs which are found to be effective in the treatment of amoebiasis were taken primarily for the study. The study covered disciplines like Pharmacognosy, Chemistry, Pharmacology etc. Comparative studies are made of mother tincture prepared by the Institute with locally available market samples. It was observed that the market samples varied in the concentrations and do not seem to possess standards obtained from the prepared ones. The process of standardising the mother tincture is also in progress. Comparative study of the extraction efficiencies of various mother tinctures, by different methods such as macration, percolation and soxhletation are in progress.

The colleetion of literary material connected with Homoeopathy is in progress.

Regional Research Institute, Delhi took steps to equip suitably to handle the various research programmes like clinical research, literary research and proving of drugs.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

The following table provides at a glance the list of clinical conditions met with. The response has been recordcd as per chosen parameters :

Diagnosis	Total No. of patients	Reco-vered	Relie-ved	Other-wise
1. Tonsillitis	97	10	77	10
2. Rhinitis	88	9	68	11
3. Infantile Asthma	15	—	13	2
4. Sinusitis	48	—	39	9
5. Allergic dermatitis	107	8	82	17
6. Eruptive fevers	6	2	3	1
7. Infective hepatitis	16	2	10	4

About 1300 persons suffering from different clinical entities were examined and detailed studies are being conducted in these to draw helpful conclusions.

Kent's repertory is being revised, considering the changes in living habits, alterations in environments which in term have a say in the presentation of symptoms in number of diseases. Moreover, there is a change in denotation and connotation of many medical terms. There have been noticed number of omssions of rubrics from these present in works of other celebretis and fram the materia medica.

Revision was, thought to be an emergent necessity and work in this direction has been undertaken. Chapters on 'Stomach', 'Urinary system', 'Abdomen', 'Male sexual system', 'Female sexual system' and 'Circulatory system' have been scrutinised and changes have been proposed.

On the basis of newer provings and clincial usages—more drugs have been indicated at appropriate places. The work is in progress.

Drug proving has also been taken up as a programme keeping in view the scientific and statistical requirements.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

The following Drugs have beeen studied for laying standard from chemical, pharmacognostical, and biological angles. Further confrimatory studies are, however, essential.

1. *Aconite nap*
2. *Allium cepa*
3. *Allium sativum*
4. *Atrapa belladonna*
5. *Artemisia maritima*
6. *Berberis vulgaris*
7. *Calatropis gigantea*
8. *Cynodon dactylon*
9. *Holarrhena antidysenterica*
10. *Sytrychnous nuxvomica*
11. *Viscum album*
12. *Zingiber officinale*

The biological investigations on *Artemisia maritima* mother tincture (Cina) it revealed that it possesses anti-histaminic activity on the isolated guinea pig ileum. Further work is necessary and the chemical compound which is responsible for anti-histaminic activity is in progress. Similarly during the biological investigations of Belladonna mother tincture it was observed that mother tincture can be standardised in relation to standard atropine.

During the chemical assay of aconite mother tincture, it was noted that the final end solution obtained after following the procedure of I.P. and B.P. for chemical assay was brown in colour which masks the delicate violet pink colour of the titration end point. These difficulties were overcome by evolving a new method which involves isolation of alkaloid by preparative thin layer chromatography of mother tincture as estimation of U. V. absorption spectra. Simultaneously it was also observed that the aconite mother tincture can be standardised biologically where a standard aconite mother tincture produces ventricular arrythmia after slow IV infusion in does range of 0-25- 0.35 ml. to the anaesthatized guinea pig weighing about 550 gms at a rate of 0.05 ml/minute.

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Abroma augusta, an indigenous herb and *Kalimur* a chemical substance were studied in the drug proving programme.

The present provings brought out a number of complete symptoms that have paramount value in treatment. The few of the new symptoms of importance are given below. Complete monographs of these provings will be separately presented in due course

ABROMA AUGSTA FOLIA

Mind: Vacantness and sadness of mind Indifference

Restlessness with dislike for everything.

Vertigo Vertigo and giddiness with headache ame. by lying down.

Head: Aching and throbbing of whole head, forehead, heaviness in forehead. Ame. solar heat agg. cold open air and stiching pain in forehead agg. by pressure. Aching pain in forehead agg. open air. Agg. dui ing rest. Burning sensation. Agg. on application of cold water. Tingling pain in forehead Agg. sitting, Ame. during sleep, bursting pain in forehead with tickling cough and constipation, Ame. cold application Throbbing in forehead, Ame. by pressure, cold bathing· Dullness. dizziness and heaviness, in forehead, Ame. by bathing. Vertex heaviness, aching, dull pressing pain, Ame. washing with cold water. Sensation of warmth Temples-throbbing pain in temples with fever; Agg. evening; Ame. by pressure. Occipital region-throbbing pain with vertigo, Agg. after sleep and from moving about, Ame. by rest.

Eye and vision Redness of eyes with out pain and discharge. Aching pain in eys with feeling as if being pressed with a blunt object over the supraorbital region, Ame. cold application, Itching inside the eye with redness by rubbing the eyes. Sensation as if foreign body has been lodged in the eyes with slight lachryamation, Ame. by closing the eyes. Sensation as if a veil is hanging in front of the eye, Ame. closing the eyes. Watery exudation with redncss of left eye ball, Agg. from cold water, during the day. Swelling of the right eye ball with little thick exudation and red conjuctivae. Burning in eyeballs with vertigo, Tenderness in the inner angle of both eyes, Agg. sunlight, Ame.

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closing the eyes Eye lids: Heaviness in eye lids particularly, upper with heaviness of head, Agg. morning Ame. day time, Aching pain in right eyelids, Agg. sunlight. Ame. closing the eyes, cold application. Sticking of both eye lids without pain and redness of conjuctivae with slight mucoid exudation.

Redness and swelling of eyelids, Agg. night Ame. daytime.

Vision: Blurred vision with aching pain in lids, Agg. sunlight and bright light, warmth, Ame. closing the eyes.

Nose: Sneezing with feeling of weakness- Burning in the nose with fever and coryza. Coryza profuse, thin, watery, bland discharge with sneezing and sensation of obstruction of nostrills at night, Agg. morning. Thick yellow muco-purulant discharge with weakness.

Teeth: Aching pain with swelling of the gum. Agg. when eating from any attempt to move the jaws.

Throat Hoarseness of voice-soreness with tickling sensation and cough, Agg. at night during deglutition, Ame. warmth stinging pain in throat on left side with headache, Agg. midnight, Agg. warm application stitching pain on right side of the throat with tenderness to external pressure with coryza, Agg. during inspiration.

Face: Tenderness due to the ulceration at the corners of mouth.

Month Bitter taste, stitching pain in gums of right side with tenderness and swelling, Agg. chewing, Ame. cold application. Tongue: stinging pain in tongue; Agg. midnight, from warm application. Heaviness and soreness of tongue.

Stomach: Loss of appetite particularly for starchy food. Disliking for food with heaviness of abdomen; Agg. during the day, Ame. at night, Nausea while taking food with loose motion, Agg. while eating. Belching of gas, Agg 4 p.m. to 6 p.m.

Abdemen Heaviness in whole abdomen with loss of appetite, constipation and headache, Agg. in afternoon, half an hour after meal, Ame. after passing stool. Rumbling inside abdomen with constipation; Agg. at night, before and

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after defaecation Ame. during passing of stools, daytime. Griping pain in the abdomen with dysentry; Agg. in the evening before stool after stool. Flatulancy in whole abdomen with loose motion and flatus, Agg. morning, Ame. after stool. Disliking for tight band around the abdomen which brings on suffocative attack with tenderness near right hypochondrium. Epigastrium, fullness in epigastrium with loss of appetite, Ame. belching out, passing flatus. Heaviness in epigastrium with disgust for food and headache, Agg. day, Ame. night, passing flatus, belching. Stitching pain in epigastrium with right sided discomfort, as headache, toothache, and aching pain in toot, Ame. pressure, bending backwards. Colicky pain in the epigastrium with fullness of stomach, Agg. 2-6 p.m. Feeling of warmth in upper abdomen intermittently. Right hypochondrium. Colicky pain of intermittent nature, Agg. after eating. Stitching pain with headache, Ame. by pressure. Unbilical region: Griping pain with coryza and chill, Agg. evening. after stool. Cutting pain across abdomen at the level of umbilicus with painless loose motion, Agg in afternoon, last part of night, Ame. after stool. Sensation of small ball pushing from inside, felt intermittently in the umbilical and right hypochondrium regions. Colicky pain with sensation of cutting inside the middle of abdomen with semisolid stools mixed with mucous, Ame. after stool. Left iliac fosa: Stiging pain with sensation as if some- thing would protrude through left lower abdomen; Agg. Pressure, Ame. exertion.

Lower abdomen : Heaviness with contipation, Agg. in morning, afternoon. Rumbling in lower abdomen with unsatisfactory evacuation of bowels, Agg in the morning. Aching pain in the lower abdomen, Agg. Pressure, lying down.

Colicky pain in lower abdomen with constipation Agg. afternoon. Sensation as if something would protrude out through left side of lower abdomen with stinging pain in left iliac.

Stool: Diarrhoea liquid stools - flatulant distension of upper abdomen with moderate urging before stool. Much

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	flatus but no pain during stool. Feeling of weakness after stool. Cyst of *E. histolytica* present (++)
	Veg. cells and fiber present (++)
	Cyst of giardia (+)
	Semisolid stool mixed with mucus
Urinary Organs & Bladder:	Albuminuria with anasarca, Agg. heat and motion Ame. cold and rest.
	Albumin + pus cells - 6 per field.
	R·B.C. + frequent and high coloured urination with fever and thirstlessness, Agg. at night.
Bespiratory systom	Suffocative cough. Respiration, shortness of breath with sense of suffocation and temperature 99°F. to 100°F. Agg. during inspiration lying down on back Ame. lying on left side eosinophilic % on higher side.
Chest	Stitching pain in left intraclavicular region with catching of breath, Ame. after slow massaging over the chest. stinging pain in left side of the chest below left clavicle after sleeping. Aching pain in the left intercostal muscles of the 5th rib with palpitation, Pulse 80 mt. insomnia at night, Agg. moving, coughing, Ame. after rest, lying down. Catching pain in right lower chest with weakness and tiredness, Agg. movement. Stitching sensation in left side of chest lasting for five seconds and appearing intermittently. Aching pain in whole chest. Buring in chest with empty eructation Agg. after taking water, Ame. after belching.
Heart	Palpitation with undesirable feeling of distress inside the chest and BP 100/70 mm of Hg. Ame. lying quiet.
Back and Neck:	Tingling in the nape of neck, Ame, after sleep pressure and constriction in the nape of neck, Agg. 7 a.m. to 9 a.m., Ame. cold.
	Aching in the right side of nape of neck radiating upto the right eyebrow, intermittent in nature with pain in the right forearm.
	Aching pain in left side of neck to left shoulder blade, left side of back and 2nd and 3rd lumbar spine, Sacroiliac

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joint, loin, lumbar region and lumbo sarcal region. Aching lamina and stitching pain in lumbar region. Pain comes and goes suddenly. Agg. Evening ; Ame, warmth application in morning. Bubling sensation in left lumba rregion. Bruised sensation in waiste with felling as if the legs would be detached from the body, Agg. after getting up from sleep Ame. after movement.

Extremities : Upper extremities : aching pain in shoulder joints with pain in forehead, Ame. during sleep. Tenderness in flexor, pronator group of muscles of forearm, Agg. movement, Ame. pressure, Trembling of left hand particularly fingures with soreness of left half of body. Burning in palm of hand, Ame. cold application. Lower extremities: Aching pain in the lower extremities ; Agg. pressure, movement, Ame. covering ; paresis, numbness and tingling in right lower extremity with anxiety, insomnia and restlessness ; Agg. during sleep ; Ame. moving about for sometime ; Sharp lancinating pain with cracking sound in left hip joint during movement with pain in nape of neck and body ache ; Agg. last part of night, movement, cold, Ame. rest, warm application, pressure. Tiredness in thigh Agg. exertion, ame. rest. Aching pain in the knee joints, Ame. during sleep, Lameness and stitching pain in right leg and right knees ; Agg. movements. Stitching pain in right knee joint, Ame. by walking. Drawing pain in calf muscles; Agg. movement ; Ame. rest.
Aching pain in both legs below the knee to heel, Ame. pressure and cold, Agg. movement, walking.

Skin : Intense itching, with eruption Itching on right forearm above right wrist joint with urticarial swelling. Intense itching with dry small vesicular and papular eruptions (resembling prickly heat) with black discolourisation on different parts of the body with angular stomatitis, Agg. sun heat. Itching with eruptions or itching without eruption on the whole body particularly thighs with constipations; Agg. during undressing, night Ame. open air.

Sleep : Sleepiness, sleeplessness/sleep disturbed at night. Sleep in cat-naps. Restless tossing in bed with sensation of warmth, Ame. hard fanning.

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Dream : Vivid dreams about, accident, dacoits and dreadful incidence; Agg. towards last part of night. Dreams of extreme thirst and as if somebody is calling by his name,

Fever : Heat all over the body at night with constant chilliness, body ache and sweat ; Agg. at night. Temperature ranges in between 99°F. to 100°F.

Generalities : Tingling and numbness feeling of warmth and burning, trembling, lethargy, weakness, uneasiness and drowiness, heaviness in the whole body, bodyache particularly in joints ; Agg. by rest, during movement. Malaise with fever and cough. Emaciation and loss of weight with general debility. Oedema and puffiness in the whole body—first appeared in face and eyes with infected scabies; Agg. heat, motion; Ame. cold, rest. Increased sweating on whole body and scalp with general debility.

Therapeutic range :

The various symptoms that are produced point this remedy to the following therapeutic potentiality. However, all these will have to be clinically confirmed and verified before being officially included in the materia medica.

1. Abdominal colic.
2. Allergic skin diseases.
3. Anasarca.
4. Blephritis.
5. Bronchitis.
6. Common cold.
7. Conjunctivitis.
8. Constipation.
9. Cystitis.
10. Diarrhoea.
11. Dropsy.
12. Dysentery.
13. Dyspepsia.
14. Gastritis.
15. Headache.

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16. Helmenthic infestations.
17. Hypertension.
18. Hypotension.
19. Insomnia.
20. Lumbago.
21. Migraine.
22. Nephritis.
23. Pharyngitis.
24. Pneumonia.
25. Polyuria.
26. Rheumatic diseases of joints.
27. Sinusitis.
28. Tonsillitis.
29. Trachoma.
30. Vertigo.

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KALIMUR

Kalimur is constantly used by the profession as a homoeopathic remedy and also as a biochemic remedy with benefit. However, this often used remedy is not thoroughly proved.

Clarks, Boericke have mentioned this drug in the materia medica with a big list of symptoms on the basis of Schuesslers indications of Kali chloratum. The provings of Kalimur done by the Council have brought out more hidden qualities of the drug, widening the scope in therapeutic application.

Needless to say that all the other symptoms of Kalimur as mentioned in Clarke and Boericke have been confirmed.

Mind : Easily vexed angered, easily angered with aversion to company. Iritability with burning in abdomen Rage and fury at sightest provocation and with great mental restlessness with lack of concentration and anxiety.

Loss of memory, cannot remember the subject which he has read a few hours back, the name of things or persons, names, spellings, past happenings etc.

Vertigo : Vertigo—sensation as if falling forward *agg.* rising from seat as if everything revolving around *agg.* while sitting, evening.

Vertigo with dizziness with change of posture.

Head : Heaviness in the whole head with headache *agg.* morning and evening ; *amel.* washing with cold water. Dull aching pain with coryza *agg.* evening, cold bathing, thinking about complaint, bending head forward and coughing. *amel.* by taking rest, pressure, company and talking.

Pain starts from parietal region settles over the whole head.

Burning, bursting pain as if the brain is on fire with servere pain in the eyes. *agg.* reading, exertion.

Pinching, throbbing, pulsating, hammering, pain *agg.* after reading, thinking about it, after sleep, *amel.* by pressure and warmth.

Pain left side of the head. *agg.* 4 p.m. to 10 a.m.

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Frontal headache, with heaviness, with pain in the nasal bridge *agg.* by sun, movement in the room *amel.* washing with cold water, closing eye, night.

Frontal headache with thirst flushed face, coated tongue and restlessness and bodyache.

Pain in the scalp with itching dandruff, scaly all over the head.

Heaviness of head with yawning.

Ears : Itching–violent itching in both ears with itching in forehead, urticarial rashes on both the ears.

Nose : Coryza with headache and blocking of nostrils, Discharges. Thin watery, thick white yellow mucopurulent, and scanty **with puffiness of face.**

Throat : Stitching pain and burning pain and burning in throat with dry irritation cough fever agg. evening. Pain in fauces, Ame. warm drinks. Pain in throat especially right side with glandular swelling and with cough agg. on swallowing; on coughing, empty swallowing, cold water, Ame. eating and drinking, hot drink.

Stomach : Poor or diminished appetite even loss of appetite.
Dull appetite with pain, gurgling and flatulance in abdomen.
Anorexia with burning in abdomen during menses.

Increased thirst.

Increased appetite, feeling very hungry. Sour, rancid. bitter, offensive, empty eructation with smell and taste of food which was taken at lunch along with heaviness and tenderness in abdomen. Sour eructation with heart burn, with sudden cough *agg.* evening, *amel.* after stool, after urination, after vomiting. Nausea with sour taste, burning in the stomach, pain in umbilical region on empty stomach. Desire for liquids with intoxicated feeling and burning in throat.

Also for sweets, tea, tobacco and rice.

Abdomen : Flatulance with distension of abdomen, enormous offensive flatus-passing of flatus with easy evacuation agg. after eating and night-with hard and scanty stool, with slight acidity ame. passing flatus.

Pain in both the hypochondria and epigastrium dull inter-

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mittent, griping colicky pain radiating to left back; Ame. rubbing on the part; after eating; rest; Agg. by jerk and exertion. Burning in epigastrium.

Dull aching pain all over the abdomen with flatulance before stool ; Ame. after stool. Pain often crampy and colicky with gurgling sound.

Rectum and Anus : Itching and tickling burning sensation in anus and rectal region. Burning in anus after hard ball like difficult stool. Dysentery : with tensmus, slimy stools with tensumus and formication; sensation at if stool would pass while passing the flatus.

Urinrry Organs and Urine : Tendency for bed wetting urine passes unconciously during sleep, yellow burning urine agg. 4 a.m. Frequent urge to urinate, burning pain and tickling sensation in urethra while urinating.

Tendency to bed wetting *agg.* 4-00 a.m. Polyuria—quantity increased *agg.* at night.

Profuse urine—yellow in the morning and then pale—burning in urethra *agg.* at night.

Respiratory: Hoarsness agg. early morning, night, Ame. Warmth; Congestion in throat. Heaviness of voice. Cough—scanty expectoration, thin, at the times thick, mucoid with disturbance sleep at night along with white scanty coryza. Dry cough witb sweetish yellow expectoration ; dry cough with tingling in throat. Cough: Dry cough, dry barking caugh with tickling in throat with vomitting with feverishness and Agg. coughing morning evening 4.00 p.m. to whole night, cold night. Gough with expectoration. Right sided chest pain, paroxysmal cough at long intervals. Preventing sleep at night agg. night, Difficulty in breathing with obstruction of nostrils, thick offensive mucoid discharge from nose and difficult to talk; ame. by eructation and passing flatus. Difficulty in breathing, dysponea. Occasional breathlessness. Respiratory rate enhanced.

Heart and pulse : Palpitation with anxiety and lachrymation agg. 2 p.m.—11 p.m. night, physical effort when thinking about matter, during day ; pulse rapid 104 p,m.

Skin : *General* : Feeling of roughness of skin with itching whitish

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patches and pimples on cheeks, appear on itching; skin dry and rough, itching of skin with or without eruption, Dryncss of skin.

local: Itching on whole body, small pimple like eruption on ears, on side of the neck, neck and back, right and left axilla, right arm and forearm, front of right elbow, left finger, both legs, inner sides of thighes.

General Symptoms : Weakness agg. afternoon, night, morning, on walking, least exertion ame. evening.

Tiredness : Tiredness with heaviness all over the body with stiffness all over, while sitting, after sometime or standing, from sitting position agg. morning or waking night.

Sleep : Sleeplcssness, cannot sleep after midnight with heaviness of head, with dreams of various kinds, cannot remember in the morning.

Fever : Chilliness; proceeding the onset of temperature with fever. Feverishness.

Fever : Temperature ranges between 99°F to 103°F with rigor, with heat ; with internal heat and wants to be covered; with hot feeling : with burning in eyes ; with headache, with frontal headache, with chill and shivering with chilliness ; with thirst ; with physical perspiration in early morning ; with bodyache with dry cough. Dry whitish tongue with malaise.
Sweat : Sweating in whole body ; scanty sweat without relief ; with fever, hard and scanty stool, with slight white coated tongue.

Therapeutic range :

The study revealed that Kalimur can form an effective therapeutic agent in alleviating the troublesome symptom in the following conditions in addition to those mentioned in Clarke's and Boricke's Materia Medica.

1. Allergic rhinitis.
2. Allergic skin disease.
3. Fevers with vesiciular eruption.
4. Glossitis.

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5. Laziness.

6. Mental aberrations and forgetfulness.

7. Peptic ulcer.

8. Polyuria.

9. Vertigo.

The work on a number of other drugs of proven value has been taken up. The clinical trials on proved drugs has been encouraging.

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Caulophyllum thalictroides, a drug used for its action on uterus is taken up to study its potentiality as an implantation-interruptor. Histochemical analysis of uterus, pituitary and thyroid were made. The endometria of the control and treated groups revealed progesterone predominance and the retardation in activity of ovarian hormones respectively. Higher potency of drug does not appear to possess contraceptive potentiality where the lower potency i.e. 200, has some effect. Further studies are in progress.

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Clinical Researeh :

Research has been taken up on certain mental disorders like Schizophrenia and anxiety neurosis besides on rheumatic diseases.

About 123 mental patients were investigated out of which 96 cases were of schizophrenia. 59 cases of schizophrenia showed remarkable improvement and 8 cases showed mild improvement and 4 cases are still under observation and remaining 4 cases have not shown any response to homoeopathic remedies. 27 cases were other types of mental diseases. In the group of 27 cases taken up as anxiety neurosis, cases of mania, hysteria. neurogenic and endogenic depression etc. were also met with. In this category 21 cases improved and in the remaining cases no response is elicited. Considerable amount of study is necessary before venturing any conclusion.

About 42 cases of rheumatic disease which also include 17 cases of previous year were investigated. The trial is in its early phase and long range study and methods of treatment are likely to be helpful in drawing conclusion in the therapeutic approach.

The pilot study has, however, revealed that the therapy has helped in reducing the subjective symptoms besides bringing down E.S,R. Further study is in progress.

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Publications/Participations

S. No.	Author (s)	Title	Journals/Seminar Conference	Name of the Unit
1	2	3	4	5
Drug Research :				
General :				
1.	Sarma, G.H.R.	Observations on the effect of high potencies of Caulophyllum thalictroids on the ovaries and its consequential changes in the uterus and thyroids in rats	Indian Society of Reproduction and endocrinology, Bombay	Chemico-Pharmacological Research Enquiry, Banaras Hindu University, Varanasi.
Papers read out in the Seminar of CCRIMH :				
1.	Chandrashekar, K. Rao, V.C.	A Preliminary study of Caulophyllum thalictroids as an implantation interrupter		Chemico - Pharmacological Research Enquiry, Banaras Hindu Universiry, Varanasi.
2.	Rao, V.S. Augustine, V.T. Muzumdar, K.P. Arora, R.B.	Antihistaminic activity of Cina, Homoeopathic mother tincture.		Drug Standardisation Unit, All India Institute of Medial Sciences, New Delhi.
3.	Rao, V.S. Siddiqui, H. Arora, R.B.	Biological Standardisation of Belladona tincture		Drug Standardisation Unit, All India Institute of Medial Sciences, New Delhi.

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Clinical Research :

General : Nil

Paper read out in the Seminar of CCRIMH :

1.	Arya, M.P. Chatterjee K.K. Dutta, B.N. Bathwalla, P.G. Shaw, R.	Controlled trial of Cynodon dactylon, Atista indica and Holarrhena antidysenterica in treatment of amoebiasis	Central Research Institute, Calcutta.

Literary Research :

General : Nil

Papers read out in the Seminer of CCRIMH :

1.	Kishore, J.	Entry of Homoepathy in India	Member of Governing Body
2.	Quasim, M. Padmini. G. Kishore, J.	Review and Revision of Kent's Repertory	Regional Research Institute, New Delhi.

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Name of the Project/Officer	*Research Problem (s)*
1. Central Research Institute, Calcutta, West Bengal *Dasgupta, N.*	i) Clinical study of *Cynodon dactylon, Atista indica Holarrhena antidyscnterica* in the treatment of amoebiasis; other indigenous drugs claimed to be useful are also to be screened clinically. ii) Standardisation of raw drugs and mother tinctures made of the above drugs. iii) Drug proving.
2. Regional Research Institute, New Delhi. *Pramanik, M.S.*	i) Clinical study to study the effects of homoeopathic remedies in Tonsillitis, Rhinitis, Infantile Asthma, Sinusitis, Allergic dermatitis, Eruptive fevers, Infective hepatitis. ii) Literary –Review and Revision of Kent's repertory
3. Drug Standardisation Unit, All India Institute of Medical Sciences, New Delhi. *Arora, R.B.*	Standardisation of i) *Aconitim napellensis.* ii) *Atropa belladonna.* iii) *Artemisia maritima.* iv) *Berberis vulgaris.* v) *Holarrheua antidysenterica* vi) *Strychnos nuxvomica.* vii) *Viscum album.*
4. Drug Standardisation Unit, Dalwar Homoepathic Medical College, Patna Bihar. *Varma, A.L.*	Standardisation of i) *Allium cepa.* ii) *Allium sativa.* iii) *Calatropisgigantea.* iv) *Cynodon dactylon.* v) *Ocimum sanctum.* iv) *Zingiber officinalis.*

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5.	Drug Proving Research Unit, Midnapore Homoeopathic Medical College and Hospital, Midnapore, West Bengal. *Sinha D.N.*	i) *Abroma augusta.*
6.	Drug Proving Research Unit, Belgaum Homoeopathic Medical College and Hospital, Belgaum, Karnataka. *Sheik, A.M.*	Proving of *Abroma augusta.*
7.	Drug Proving Research Unit, D.N. De Homoeopathic Medical College and Hospital, Calcutta West Bengal. Sircar, S.D. Naynk, S.K.	Proving of *Kalimur.*
8.	Drug Proving Research Unit, National Homoeopathic Medical College and Hospital, Lucknow, Uttar Pradesh. *Sharma, J.C.*	Proving of *Kalimur.*
9.	Drug Proving Research Unit, K.N.H. Medical College and Hospital, Bhagalpur, Bihar. *Capore, C.N.S.*	Proving of *Kalimur.*
10.	Chemico-Pharmacological Research Unit, Department of Zoology, Institute of Medical Sciences. Banaras Hindu University, Varanasi Uttar Pradesh. *Chandrasekhar, K.*	Chemico-Pharmacological Screening of*Caulophyllum thalictroides* as an implantation interrupter.
11.	Clinical Research Unit, Athurasramam Homoeopathic Mental Research Hospital, Sachivothamapuram, Kottayam, Kerala.	Clinical studies—Schizophrenia, Anxiety neurosis.

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	Sexaua, A.C./Pandyan, R.S.		
12.	Clinical Research Unit, Government Homoeopathic Hospital, Gudiwada Andhra Pradesh. *Kutumba Rao, M.*	Clinical studies—Rheumatic diseases.	

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Clinical and Chemico-pharmacological screening of drugs claimed to possess contraceptive potentiality have been taken up by the Council. Studies have been conducted during the period under review and they seem to indicate that the follow up should continue regularly and due note is to be taken about medico-socio-economic impact on the entire programme. Keeping in view the importance of the problem and the need for development of an effective and safe contraceptive, a few rapid screening methods from chemico-pharmacological angle have also been taken up.

The following recipes have been tried at clinical level :

1) *Vidangadi yoga* (Ayurveda)
2) *Talisadi yoga* (Ayurveda)
3) *Pippalyadi yoga* (Ayurveda)
4) *Chunghi—Majaun-e-najah* (Unani)

The above recipes have been studied under the clinical programme. The handicaps like not continuing the drug for longer time or discontinuing drug due to domestic objects/problems and presence of complications or other inter-current diseases were to a considerable extent limiting factors in the evaluation of the potentiality. In all these cases, there is a need to study the effect for a fairly long period on a large population not using any conventional contraceptixe agent. It is not proper to draw conclusions about the effectiveness or otherwise of any of the recipes in view of the national importance, the programme has while the limiting factors of assessment are present.

Trial of *Ghungchi* (*Abrus precatorius*) as a contraceptive agent along with *Majoon-e-Najah* has been taken up. The composition is as follows :

1. *Post-e-Halela*=Bark of *Terminalia chebula* its 3 varieties.
   i) *Halela Zard—Manju*
   ii) *Halela Kabuli—Snrat*
   iii) *Halela Siah— Pinju*
2. *Post-e-Balela*—Bark of *Terminalia belerica*
3. *Amla Muqashshar—Emblica officinalis*
4. *Bisfaef—Polypodium*
5. *Aftemoon—Guscuta reflexa*

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6. *Ustokhuddoos*—*Brumella valgaris*

7. *Turbud sufaid Mujawwaf Kharashi*da—Root of *Ipomea*

The usefulness of this drug as a eontraceptive agent can be said only after prolonged trials running for longer periods with effeetive follow up.

The total alcoholic flower extract of *Hibiscus rosasinensis* when administered to female albino rats showed contraceptive tendency in the dose of 250 mg/kg. per body weight to the extent of 60%. The water insoluble portion of benzene extract when given orally showed comparatively better contraceptive activity. The long term treatment running to 90 days caused uterine quisence. The total alcoholic extract in doses of 250 mg. per rat per day caused degeneration of seminiferous tubules and arrested spermatogenesis. Four flavonoglycosides and two anthocynines, were isolated from the flower petals. On the basis of chromatographic, spactral and degradative evidence, the following structural assignments were made : quercetin-4' diglucoside, quercetin-4 glucoside, quercetin-7-glucoside, quercetin-3-diglucoside, cyanidin-3-glucoside, cyanidin-4'-glucoside.

The aqueous extract of *Daucus carota* showed maximum antifertility activity when the seed powder was extracted successively with petroleum ether, ethanel and finally water. LD of the drug was calculated to be 188.54 mgs. when administered intraperitoneally. Trials are in progress on this subject with *Embelia ribes*, *Butea frondosa*, *Abrus precatorius*, *Hibiscus rosasinensis*.

The aqueous extract of *Embelia ribes* at a dose level of 100 mg/kg. possessed antifertility activity (92.95%). This observation has been made from the anti-implantation effect it exerted. The benzene extract of use of *Ocimum sanctum* in the preliminary screening showed to possess antifertility action.

Preliminary screening of the active constituents of the following drugs was taken up recently and much work has to be done before any opinion is advanced.

1. *Abies webbiana*
2. *Piper longum*
3. *Melia azadirachta*

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4. *Trigonella foenum-graecum*

5. *Curcuma longa*

Coded drugs have also been given a trial both at clinical and experimental levels. Confirmatory opinion can be advanced only after a detailed study is made on a large population for a fair period.

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S. No.	Auther(s)	Title	Journals/Seminar Conference	Name of the Unit
1	2	3	4	5
1.	Kholekute, S.D. Chatterjee, S. Srivastava, D. Udupa, K.N.	Antifertility activity of *Hibiscus rosasinensis.*	Journal of Research in Indian Medicine	Chemico - Pharmacological Screening Unit (Family Planning), Varanasi.
2.	Rath, R.K.	Use of some indigenous plant substances as spermicidal agents.	Annual Conference of Orissa Association for advancement of Science.	Chemico - Pharmacological Screening Unit (Family Planning), Bhubaneswar.

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Name of the Project/Officer	Project/Programme Research problem (s)
Ayurveda	
1. Regional Research Institute Jaipur, Rajasthan. *Bhatta, G.K.*	Clinical trial on *Pippalyadiyoga.*
2. Regional Research Institute Calcutta, West Bengal. *Mukherjee, G.D.*	Clinical trials on coded drug.
3. Clinical Screcning Unit, Central Research Institute, Patiala, Punjab. *Sharma, K.*	Clinical trials on *Talisadiyoga.*
4. Clinical Screening Unit, Govement Ayurvedic College, and Maternity Home, Trivandrum, Kerala. *Sreedharam, N.*	Clinical trials on *Vidangadiyoga.*
5. Clinical Screening Unit, State Ayurvedic College, Lucknow, Uttar Pradesh. *Sharma, V.K.*	Clinical trials on *Vidangadiyoga.*
6. Clinical Screening Unit, Department of Prasustitantra, Institute of Medical Sciences, Banaras Hindu University, Varanasi, Uttar Pradesh. *Tiwari, P.V.*	Clinical trials on *Talisadiyoga* and a coded drug.
7. Clinical Screening Unit, R.A. Podar Ayurvedic College, Bombay, Maharashtra. *Koppikar, S.S.*	Clinical trials on *Vidangadiyoga.*
8. Clinical Screening Unit, Shri Jayachamarajendra Institute of Indian Medicine, Bangalore, Karnataka. *Sharma B.N.*	Clinical trials on *Vidangadiyoga.*

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9.	Clinical Screening Unit, A.A. Hospital, Ahmedadad, Gujarat. *Giri, D.T.*	Clinical trials on *Pippalyadiyoga.*

Unani

10.	Clinical Screening Unit, Nizamia Tibbia College, Hyderabad, Andhra Pradesh. *Zahoori, A.W.*	Clinical trials on *Chunghchi* with *Majoon-e-Najah.*

Chemico-Pharmacological

11.	Chemico - Pharmacological Screening Unit, All India Institute of Medical Science, New Delhi. *Arorra, R.B.*	i) *Daucus carata* ii) *Embelia ribes* iii) *Butea frondosa* iv) *Abrus precatorius* v) *Hibiscus rosasinensis*
12.	Chemico - Pharmacological Screening Unit, Gujarat Ayurved University, Jamnagar, Gujarat. *Vasavada, S.A.*	i) *Embelia ribes* ii) *Ocimum sanctum*
13.	Chemico - Pharmacoiogical Screening Unit, Institute of Medical Sciences. Banaras Hindu University, Varanasi, Uttar Pradesh. *Udupa, K.N.*	i) *Hibiscus rosasinensis.*
14.	Chemico - Pharmacological Screening Unit, University of Agriculture, Bhubaneswar, Orissa. *Rath, R.K.*	i) *Abies webbiana* ii) *Piper longum* iii) *Melia azadirachta* iv) *Curcuma longa* v) *Trigonella foenum-graecum*
15.	Chemico - Pharmacological Screening Unit, Government Medical College, Trivandrum, Kerala. *Radhakrishnan, N.*	i) Screening of coded drugs.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

The Council envisaged 7 Senior prizes of Rs. 500 each and 10 Junior prizes of Rs. 300/- each. The Council received 27 papers for award of prizes and they were evaluated by an Expert Committee drawn from different disciplines/fields. They decided that the following 13 papers may be awarded the prize for the work done upto 1972.

Senior Prize Rs. 500/-
Ayurveda

1.	Physical, Physiological Metabolic and Endocrine studies on the effect of *Rasayana* in aged people.	Dr. M.D. Varma, Research Officer, Clinical Research Enquiry (Ayurveda), Varanasi.
2.	Chemical and Biological Standardisation of *Commiphora mukul*, (*Guggulu*)	Dr. R.B. Arora, Project Officer, Drug Standardisation Research Unit (Ayurveda), New Delhi. *Co-Authors* : Dr. Lalit Gupta, Dr. R.C. Sharma and Shri S.K. Gupta.

Unani

3.	Clinical study of *Kasrat-e-Tams* under *Tukme-Bartang*.	Dr. (Mrs.) Ummul Fazal, Research Officer, Clinical Research Unit (Unani), New Delhi.

Homoeopathy

4.	Biological and Chemical methods for the standardisation of Aconite Mother Tincture.	Dr. V.T. Augustine, Research Officer, CCRIMH, New Delhi. *Co-Author* : Dr. (Mrs.) N. Basu

Junior Prize Rs. 300/-
Ayurveda

1.	*Tephrosia purpurea as* local anaesthetic agent.	Dr. P.V. Raj, Assistant Reseaach Officer, Regional Research Centre, Vijaywada.

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2.	Investigations on the new botanical identity of *Bharangi* used in Madhya Pradesh.	Dr. L.S. Bhatnagar, Project Officer, Survey of Medicinal Plants Unit, Gwalior. *Co-Authors* : Dr. V.K. Singh and Dr. Gynendra Pandey
3.	Cardio-vaseular Pharmacology of *Nerium indicum* (*Karaveera*).	Dr. N. Singh, Research Officer, CDRS Pharmacological Research Unit, Lucknow. *Co-Authors :* Dr. V.K. Kulshreshta and Dr. R.P. Kohli.
4.	Inhibition of slow reacting substance of anaphylaxis (SRS-A) by the saponin of *Gardenia turgida*.	Dr. S.S. Gupta, Officer-in-Charge, CDRS Pharmacological Research Unit, Bhopal. *Co-Authors :* Dr. A.K. Ram and Dr. R.M. Tripathi
Yoga		
5.	Evaluation of Yogic methods in the treatment of obesity.	Shri M.L. Gharote, Assistant Director (Res.) Scientific Research Department, K.S.Y.M. Camiti, Lonawala, Poona.
Vnani		
6.	Standardisation of *Jawarish Jalinoos* (A Unani medicine)	Dr. A.H. Israili, Project Officer, Drug Standardisation Research Unit, (Unani) Delhi.
Siddha		
7.	Pharmacognostical studies on *Mancarokini* of Siddha Medicine.	Prof. R, Kumaraswami, Project Officer, Survey of Medicinal Plants Unit, Palayamcottai.
Family Planning		
8.	Study of an Ayurvedic recipe claimed to be useful in Family Planning Programme.	Dr. (Mrs.) T.L. Tersia, Assistant Research Officer, Family Planning Research Unit, Trivandrum.

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9.	Chemical and Pharmacological studies on *Hibiscus rosasinensis*	Dr. D.N. Srivastava Assistant Research Officer, Family Planning Research Unit, Varanasi. *Co-Author :* Shri S.D. Kholekute

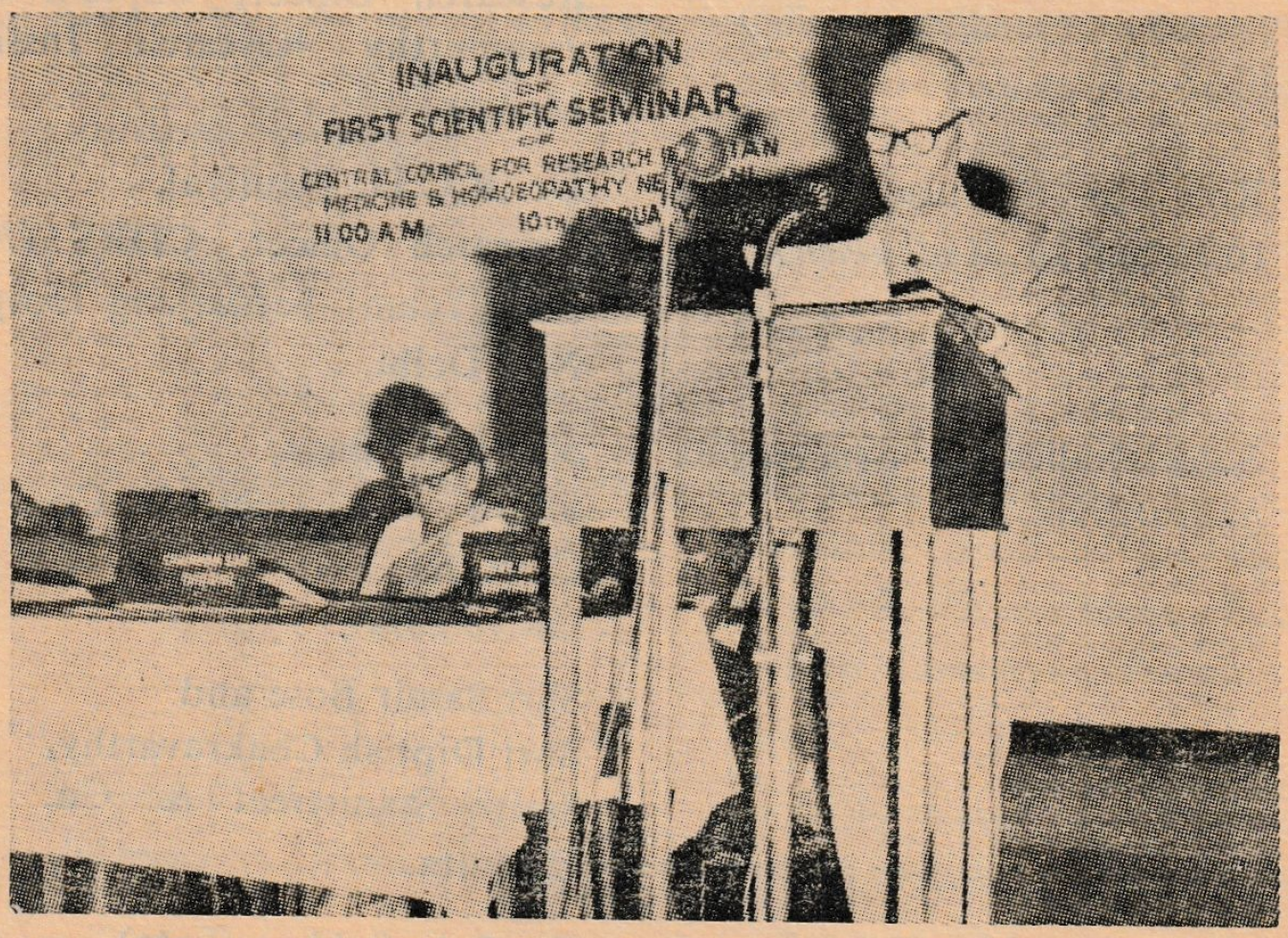
The Council also awarded 4 prizes for the papers selected and approved by Ministry of Health for the year 1966-67. The details are as follows :

Junior Prize Rs. 300/-

1.	*Pashanabheda*	Dr. V. Narayanaswami, 70, Tana Street, Vepery, Madras. *Co-Author* : Shri S. Usman Ali, Research Officer, Captain Srinivasamurthy Research Institute, Madras.
2.	Role of *Saptaragi* in the treatment of *Madhumeha.*	Dr. R.C.D. Nautiyal, Research Officer, CDRS (Ayurvedic Team), Safdarjang Hospital, New Delhi.
3.	Some studies on *Semicarpus anacardium.*	Shri R.K. Basu, Smith Stanistreet & Co. Ltd., Calcutta. *Co-Authors* : Shri Samir Bose and Shri Diptish Chakravarthy, Smith Stanistreet & Co. Ltd., Calcutta.
4.	Study of *Peptic ulcer* according to the Unani system of medicine.	Dr. S.A, Subhan (Late) Director of Indigenous Medicine, Madras.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

The First Scientific Seminar of Central Council for Research in Indian Medicine and Homoeopathy was held at New Delhi from 10th February, 1973 to 13th February, 1973 in pursuance of its aims and objects. The Scientific Seminar was inaugurated at Mavalankar Auditorium, Delhi by Shri V.V. Giri, President of India on 10th February, 1973. Shri R.K. Khadilkar, Minister for Health and Family Planning presided over the inaugural session.



Pt. Shiv Sharma, Chairman, Scientific Advisory Board (Ayurveda) presenting his welcome address.

Pt. Shiv Sharma welcomed the President of India and other scientific workers. He made a brief survey of the activities of the Council and the progress made in the field of Indian Systems of Medicine, Homoeopathy and Yoga.

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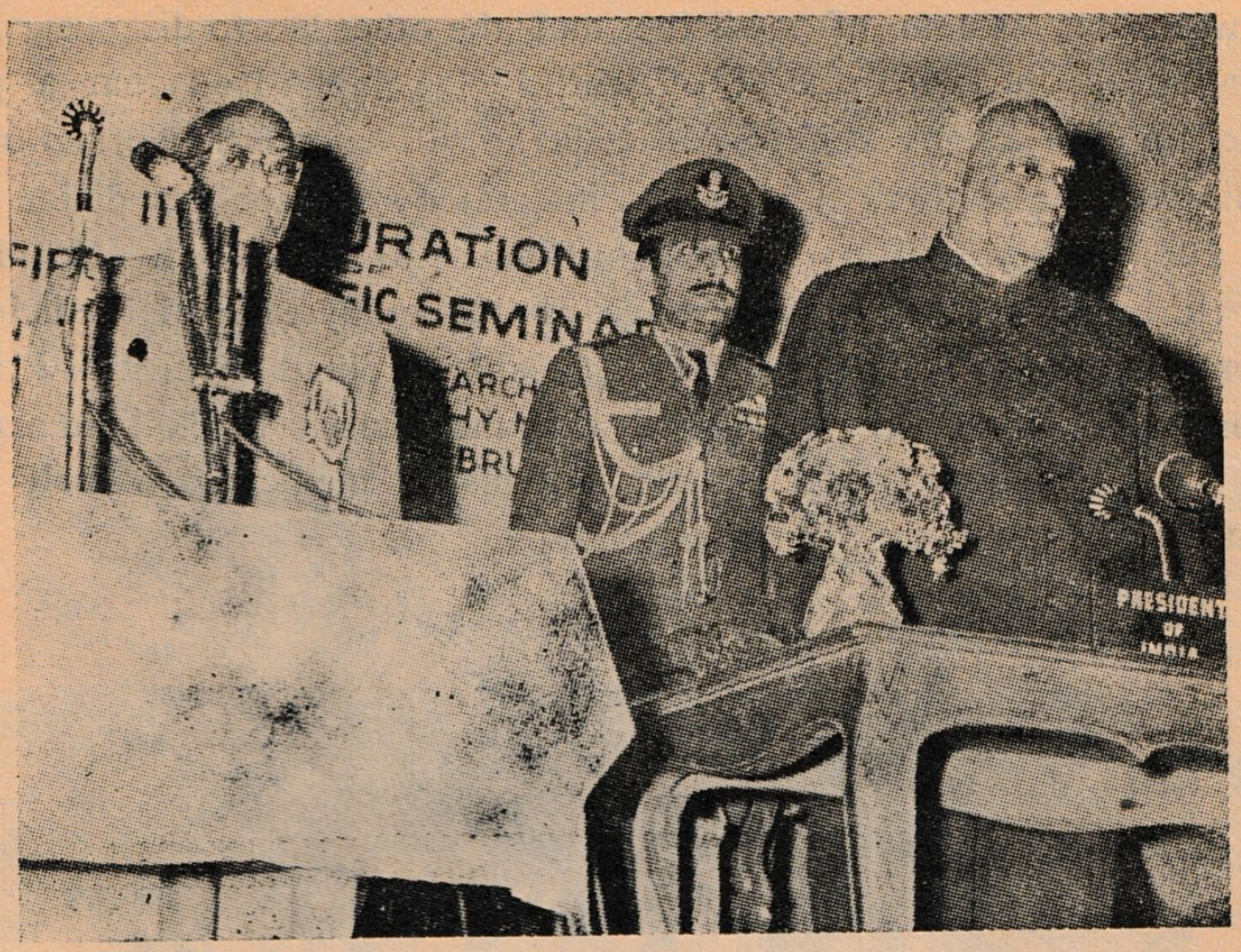
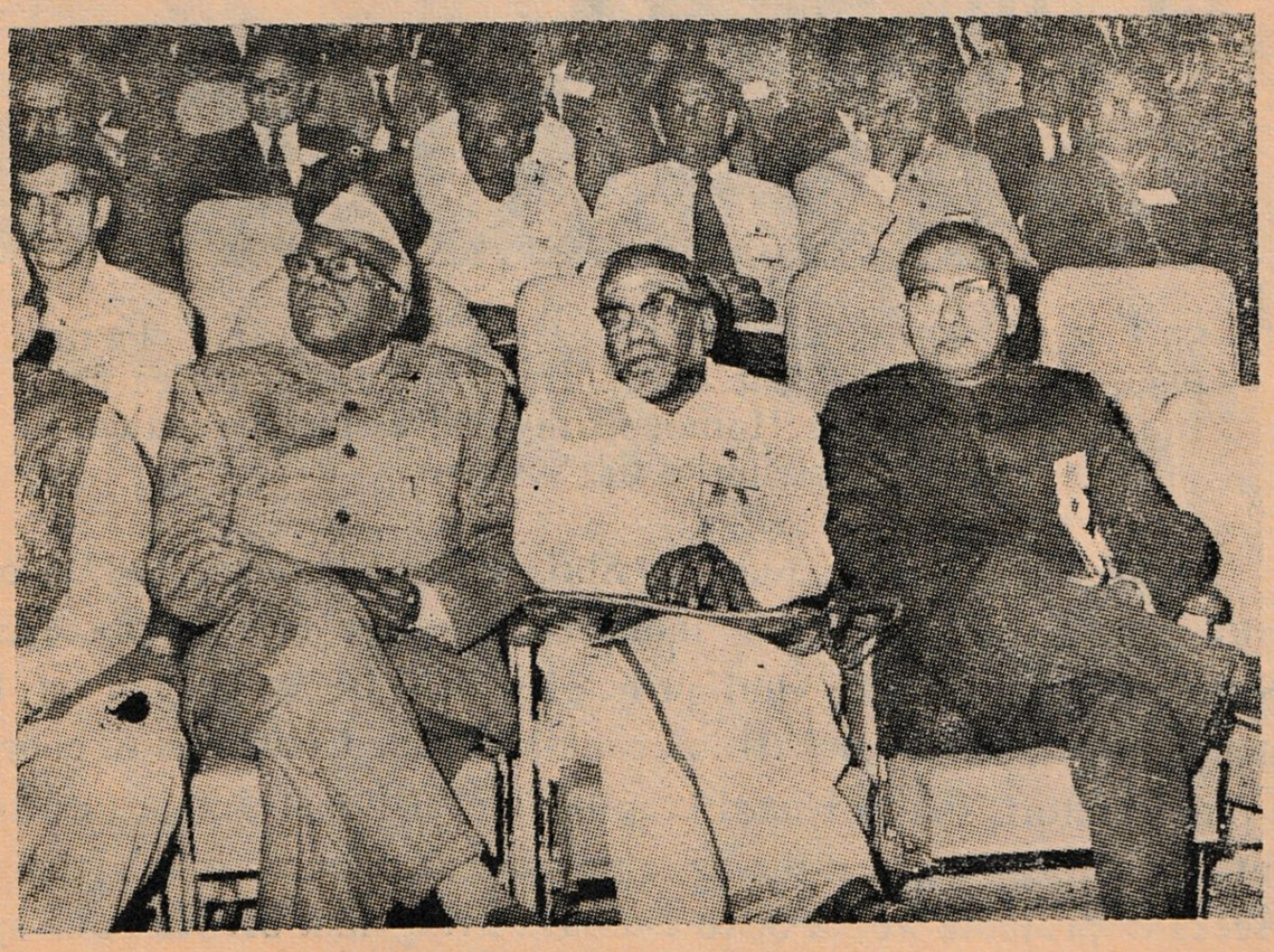


Inauguration of the Seminar by Shri V.V. Giri, President of India.

Shri V.V. Giri, President of India in his inaugural address stressed the need to draw concepts and techniques from all the contemporary systems of medicine and other disciplines. He indicated that the barrier



A section of the invitees at the inaugural session of the Seminar.

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between one system of medicine and the other has to disappear in this great endeavour in the pursuit of truth. He emphasised that a proper role for indigenous systems of medicine will have to be worked out and indicated that he always felt that an integrated system of medicine suited to our country and its teeming millions is to be evolved. He pleaded for full use of the great heritage of Indian Systems of Medicine and Homoeopathy so that all people will be able to obtain medical aid in the shortest possible time. He hoped that the Seminar of the kind arranged by the Council will profit these systems of medicine as well as the humanity as a whole.

Shri R. K. Khadilkar, Minister for Health and Family Planning and President of Central Council for Research in Indian Medicine & Homoeopathy addressing the inaugural session of the Seminar.

In his presidential address, Shri R.K. Khadilkar, Minister for Health and Family Planning indicated that the task of research is to uncover and reactivate the vital principles that lie embedded in Indian Systems of Medicine and Homoeopathy. The Council is to coordinate the various efforts in this regard keeping the national interest as its focal point. He emphasised that the basic purpose of research which this Council seeks to promote would be to establish living link between our systems and modern sciences and to revitalise them through the use of modern techniques. He indicated that liberal provision will be made for research

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Dr. J. N. Sirkar, Chairman, Scientific Advisory Board (Homoeopathy) delivering his lecture on research methodology

Swami Poornanand Tirtha, Chairman, Scientific Advisory Board (Yoga) delivering his lecture on research methodology.

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in the next financial year and research in this field will not suffer from lack of funds. The Council has made a good beginning and he hoped that the research workers associated with the activities would be able to make a real contribution which will be convincing.

Hakim Yusuf Hussain Khan, Chairman, Scientific Advisory Board (Unani) extending the vote of thanks during the inaugural session

The Session ended with vote of thanks by Hakim Yusuf Hussain Khan. The inaugural session was followed by a Seminar on Research Methodology covering the various systems and disciplines with which the Council is concerned in which 12 experts participated.

On the evening of 10th February, 1973, Shri R.K. Khadilkar, President of Central Council for Research in Indian Medicine and Homoeopathy presented awards to the research workers whose papers have been adjudicated for award of prizes.

Swami Dhirendra Brahmachari of Vishwayatan Yogashram, New Delhi arranged an Yoga demonstration on the evening of 10th February, 1973.

The Seminar on Drug Research was held at Constitution Club, Vithalbhai Patel House on 11th February, 1973. The Seminar was presided over by Prof. A.N. Namjoshi on 11th February, 1973 with Dr. C.K. Atal as Co-Chairman and on 12th February, 1973 it was presided over by Shri S.K. Borkar with Dr. Reyat Khan as Co-Chairman.

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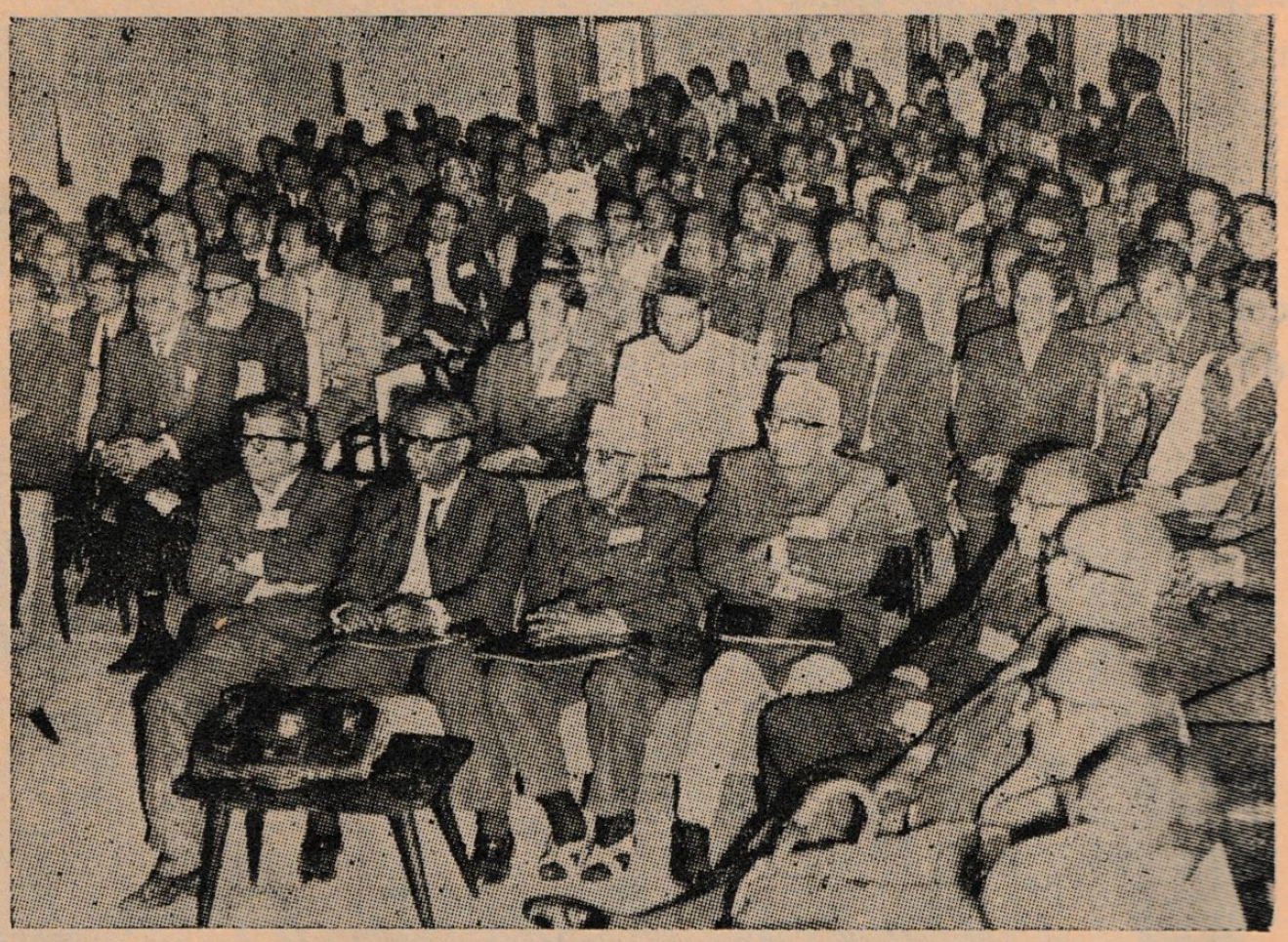
The Seminar on Clinical Research was held on 11th February, 1973 and 12th February, 1973 it was presided over by Vd. Lal Chand Prarthi on 11th February, 1973 with Kvj. Ashutosh Majumdar as Co-Chairman and on 12th Februaty, 1973 it was presided over by Vd. V.J. Thaker.

The Seminar on Yoga Research held on 11th February, 1973 was presided over by Swami Dhirendra Brahmachari with Dr. G.L. Gharote as Co-Chairman.

The Seminar on History of Medicine and Literary Research held on 12th February, 1973 was presided over by Dr. D.V. Subba Reddy.



A view of the delegates attending the Seminar.

Thirty one papers were presented in the Drug Research Seminar. The papers broadly covered subjects like survey for obtaining genuine drugs, standardisation of drugs and medicinal preparations and results of cooperative drug studies undertaken by multi-disciplinary project titled "Composite Drug Research Scheme."

In the Seminar on Clinical Research, twenty five papers were presented. They have focussed attention on the clinical response to single drugs and compound formulations.

In the Seminar on Yoga Research, six papers were presented. This session highlighted the scope of utilising Yoga in the treatment of several diseases without the use of drugs and medicaments. The papers have

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also referred to necessity of Yoga for evaluation of human personality in all its aspects—physical, psychological, emotional, environmental, behavioural and social.

In the Seminar on History of Medicine and Literary Research six papers were presented. The Session provided information relating to the knowledge of healing herbs through the ages and its impact on contemporary medical knowledge. The papers presented have taken note of the history of dissemination and assimilation of medical knowledge and impact on the contemporary sciences, disciplines, culture and society. Sectional meetings connected with Siddha, Unani, Yoga and Homoeopathy as well as circuits of Composite Drug Research Scheme were held during 11th February, 1973 and 12th February, 1973. Before the annual Seminar of Composite Drug Research Scheme, the meetings of various disciplines also took place.

A meeting of the Directors/Honorary Directors/Project Officers/ Officers-in- Charge of the Institutes / Centres/Units / Enquiries was also held to discuss specific problems of common interest.

Shri C. S. Ramachandran, Vice President of the council addressing the Plenary concluding session of the Seminar.

On the evening of 13th February, 1973, the plenary session was held wherein Vd. Bhagwan Dash presented a brief resume of the proceedings. The meeting was presided by Shri C.S. Ramachandran, Secretary for Health and Family Planning. Shri C.S. Ramachandran on his presidential

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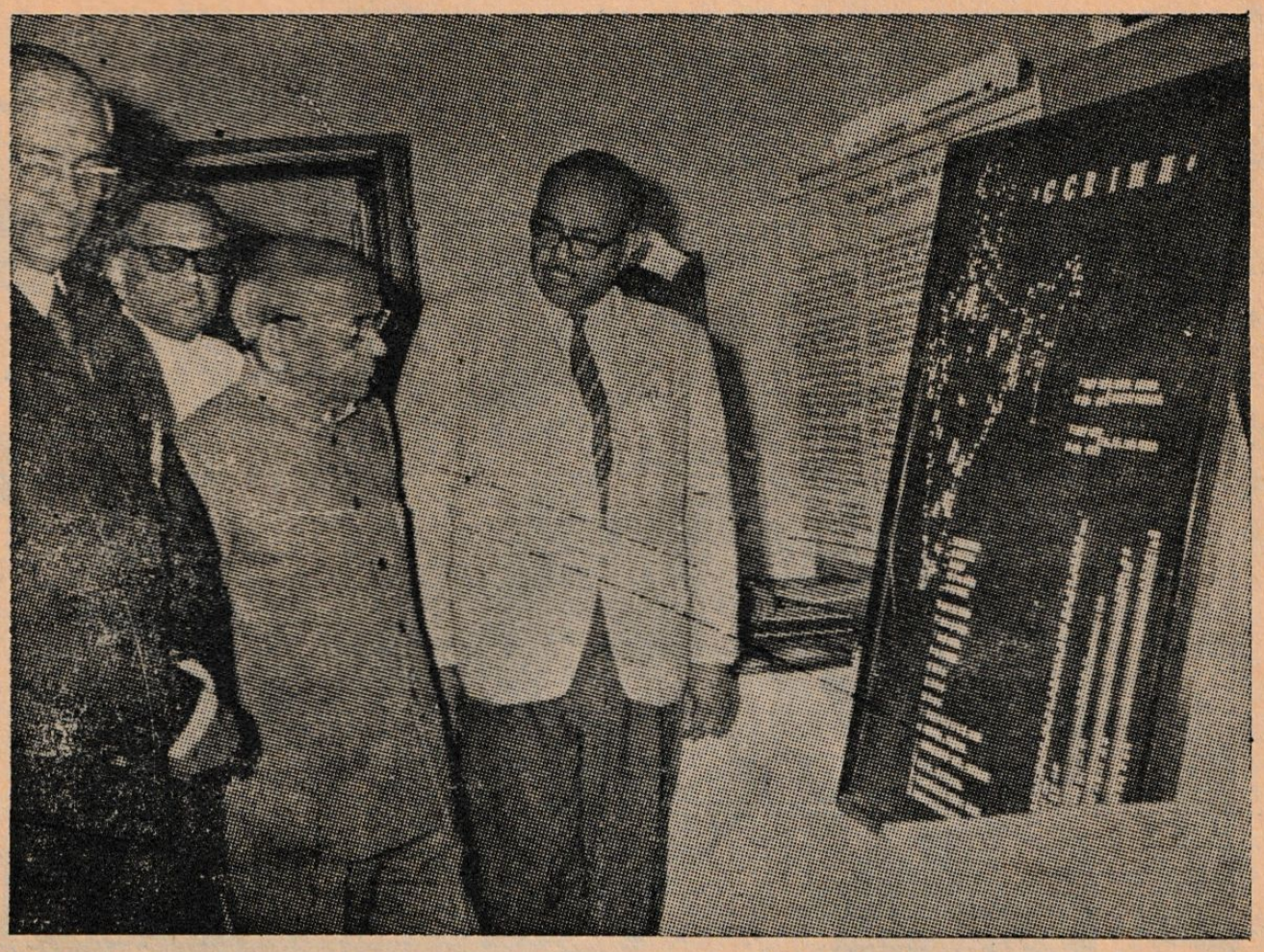
address stressed that activities should take note of the immediate needs as well as utilisation of simple remedies so that medical relief will be cheaper and at the same time easily available. He stressed that the research must be oriented towards the goal of utilising the herbal wealth of the country to the utmost advantage of the humanity. The session ended with a vote of thanks by Dr. P.N.V. Kurup.



Shri R. K. Khadilkar, President CCRIMH, Shri C.S. Ramachandran, Vice President, Secretary to the Government of India, Ministry of Health and Family Planning and Prof. A. N. Namjoshi, Minister for Education & Sports, Maharashtra looking at the map of India showing various Institutes/Centres/Units of the Council at the exhibition.

The Council arranged an exhibition depicting the various aspects related to the Indian Systems of Medicine, Yoga and Homoeopathy during the period of First Scientific Seminar. The exhibition was opened by Shri R.K. Khadilkar, President, Central Council for Research in Indian Medicine and Homoeopathy.

A graphic and pictorial appraisal of the various facets of research work under the aegis of Central Council for Research in Indian Medicine and Homoeopathy was presented through a Scientific exhibition.

In the exhibition while emphasis was laid on Drug Research, other branches like surgery, pharmacology and clinical research etc. were also well represented.

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Supply of drugs of genuine quality being the prerequisite for any research in this field, the exhibition opened with the section on Survey of Medicinal Plants and cultlvation of drugs. Herbarium sheets, plant material and samples representing some 4000 species of original collections made by the Survey of Medicinal Plants Units of the Council from alpino, gangetic plain, arid zones, the Deccan plateau and coastal regions were

Shri C.S. Ramachandran Vice President along with Dr. P.N.V. Kurup, Director of the council during his round of the Exhibition.

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displayed. Some of the aconites, delphiniums, tulips, gentians, xorics, cycads were eye catching. Excellent display of lifelike coloured plates, drawings and photographs with giant close ups of medicinal plants not only lent a colour to the whole exhibition but also left one wondering at the colossal herbal wealth which the country offered for exploitation. Over a hundred drugs playing an important role in the export promotion and import conservation were also displayed along with large number of reprints of publised articles on their collection, cultivation and exploitation. The plants collected from Bhutan which were displayed were informative. The methodology adopted for clearing the identity of controversial drugs through comparison of all possible varieties with textual references was unique. Success achieved in the spheres of introducing Saffron in Uttar Pradesh was shown through a collection of pharmaceutically pure product obtained there under the aegis of the Council. Attention was also being paid to the augmentation of the supply of musk, which besides a big dollar earner, is also a life saving drug. A corner of the exhibition was set apart for folklore collections made from the different parts of the country.

Display of plates, photographic enlargements of plant sections and camera lucida drawings of pharmacognosy of Indian vegetable drugs also formed an interesting and instsuctive part.

The achievements in the field of Chemical Research in Indian Medicinal Plants carried out under the Council appeared next. Flow-sheets showing the starting material, the process and isolated principles along with semi-commercial methods were displayed. The break-through in the production of glycyrrhetic acid and *Guggulu* sterols was noteworthy. Active principles isolated from *Daemia extensa*, *Didymocarpus pedicellata*, *Clitoria ternetea*, *Aerva lanata*, *Aerva javanica*, *Gmelina arborea* and *Acacia leucophloea* and methodology of extraction displayed was equally interesting.

The rediscovery of new drugs from ancient heritage by diligent search through chemico-pharmacological studies being carried out by the various centres of the Council were presented next. Therapeutic potentialities of *Asparagus racemosus*, *Baerhaavia diffusa*, *Aloe vera* and *Nyctanthes arbortristis* and isolation of *Jatamansone*, antivenom principle in musk and oxytocic principle in *Aloe indica* are a few of the interesting exhibition materials. The therapeutic potentialities of the *Guggulu* and the break-through it has made in treatment of obesity is depicted.

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The advantages accrued to the Homoeopathic system of medicine by the assimilation of vegetable drugs of Indian origin to the Homoeopathic Pharmacopoeia of India were indicated through comparative study of exotic and indigenous plants, samples, drug proving data. Rare collection of reperteries were exhibited. The Kishore Cards, which is manual computarisation of information on symptoms and drus was another feature of interest. The research activities in the field of control of human fertility through Homoeopathic drugs are also depicted. The rationale behind the theory of symptoms and cure in Homoeopathy as verified by modern chemical and pharmacological findings conducted under the Council along with the Drug Provings was another feature of interest.

A section was devoted to surgical methods and principles described in Ayurveda. A collection of rare and ancient Indian surgical instruments was displayed. This collection amply indicates that surgery was well developed in ancient India. Diagrammatic representation of use of *Kshara sutras* in anorectal surgery and its success as a technique superior to the currently available surgical measures. The use of *Kulatha* and *Gokshura* in *Ashmari* as an aid to the surgical treatment was also pictorially represented.

A collection of rare manuscripts on physiology. anatomy, pharmacy and clinical practice of Unani System were prominently displayed. Surgical instruments of the Unani System displayed at the exhibition indicated the mastery of the subject the ancients had. Modern approach to the Unani pharmacy was represented through a flowsheet captioned "How a plant becomes a drug". This flowsheet was supplemented by live plants herbarium sheets, processing details and the product. *Habbulas*, a Unani product was highlighted. Centres of research and learning were beautifully marked in a map of the country. Coloured plates, drawings and photographs enriched this section of the exhibition. Graphic representation of the methodology of research work on *Kasrat-e-tams*, *Zaheer Muzmin* and *Zusantaria mari* were presented.

The Yoga section of the exhibition outlined the role of Yoga in treatment of chronic and difficult to cure diseases like epilepsy, arthitis, diabetes mellitus, hypertension, asthma etc. Actual case studies were laid out along with photographs, skiagrams, bacteriological and pathological records to provide information of role of Yoga has in treatment. Knowing of successful application of Yoga to various conditions was really very fascinating.

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Pranayama, Asana and Yogic exercises their correct postuers and procedures were provided through literature charts and drawings. A number of useful books relating to Yoga are also exhibited.

The Section on Literary Research and History of Medicine has been of considerable informative value. Large number of rare plam leaf manuscripts were displayed. Earliest works by leading authorities of the South was an additional attraction. Plates and photographs supplemented the material. Some rare photographs like that of Dhanwantari were also exhibited along with photostats of picture and drawings from ancient literature.

A large number of charts indicating the allegorical and mythological background of the herbal drugs used in Siddha System of Medicine are depicted. A collection of rare bird (stuffed) and lizards was also exhibited. A pharmacognestic study of the different drugs in the in Siddha System were presented along with rare collection of samples, collection of large number of vegetable drugs considered to possess therapeutic potentialities.

The plan and method of working of the Documentation Section of Headquarters was also exhibited. Journals and reprints of articles of importance were also exhibited.

Publications sponsored and published by the Council were displayed. The Journal of Research in Indian Medicine, Bulletin of the History of Medicine, Museum Guide (Indian Mediine) Catalogue of Sanskrit Medicinal Manuscripts, Monographs on Peruvoside and collections of medicinal plants from Uttar Pradesh were also displayed. The publications brought out by Gujarat Ayurved University, Jamnagar were also exhibited.

A collection of different types of standardised Ayurvedic preparations such as *bhasmas, rasa yogavatis, kupipakvas* along with their data were also depicted.

The portraits of stalwarts of Indian Systems of Medicine and Homoeopathy were also exhibited.

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Journal of Research in Indian Medicine

The Journal of Research in Indian Medicine, the official organ of the Council has brought out 4 issues under volume 7 during 1972. About 53 original articles on research have been published besides a special article on mathematical formulation of problems and research speculations in the fundamental theory of *Tridosha*. A few short communications have also been includcd. The articles/data relate to various disciplines and they are oonsidered to be help to research workers.

Bulletin of Institute of History of Medicine

The 4 issues of the Volume 2 were publised during 1972. The various articles/study reports published in the Bulletin will give broad perspective of the activities of each system with which the Council is concerned besides tracing the progress and development during different periods taking note of contemporary developments in the fleld of history medicine. Apart from providing information relating to medico-historical research in India, the accounts of early travellers on Indian Medicine are also published.

Publications

The Council has brought out the following monographs during the current year.

1. Peruvoside and other cardiotonic glycosides of *Thevetia neri-ifolia*.
2. Medicinal flora of certain districts in Uttar Predesh (Collection of Plants from Kapkot, Umla, Sundardhunga and Pindari in Almora District).
3. Medicinal flora of certain districts in Uttar Pradesh (Collection of plants in the Jamuna (Yamuna) Valley in Uttarkashi District of Uttar Pradesh).
4. Medicinal flora of certain districts in Uttar Pradesh (Collection of plants in the East and West of Panchachuli regions in the District of Pithoragarh in Uttar Pradesh).
5. Check list of Sanskrit medical manuscripts in India.
6. Charucharya.

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Annexure I

Institutes/Centres/Units/Enquiries

Institutes

(as on 1-4-1973)

1. Central Research Institute (Ayurveda), Patiala.
2. Central Research Institute (Ayurveda), Cheruthuruthy.
3. Central Research Institute (Unani), Hyderabad.
4. Central Research Institute (Siddha), Madras.
5. Central Research Institute (Homoeopathy), Calcutta.
6. Institute of History of Medicine, Hyderabad.
7. Jawaharlal Nehru Ayurvedic Mediclnal Plants Garden Herbarium and Museum, Poona.
8. Regional Research Institute (Ayurveda), Calcutta (CDRS, SMPU, AMRU, FPRU)
9. Regional Research Institute (Ayurveda), Bhubaneswar (CRU, SMPU, AMRU).
10. Regional Research Institute (Ayurveda), Jaipur (CRU, SMPU, AMRU, Cultivation of Guggulu, FPRU).
11. Regional Research Institute (Homoeopathy), New Delhi.
12. Regional Research Centre, Joginder Nagar (AMRU, SMPU).
13. Regional Research Centre, Vijayawada (AMRU, SMPU).
14. Regional Research Centre, Nagpur (AMRU, SMPU).
15. Regional Research Centre, Jhansi (AMRU, SMPU).
16. Amalgamated Unit, Ranikhet (Survey, Standardisation, Cultivation of Saffron and Brecding of Musk Deer).

Units

Survey of Medicinal Plants Units and Cultivation :

1. Government Ayurvedic Pharmacy College, Rajpipla.
2. Government Ayurvedic College, Gwalior.
3. Government Ayurvedic College, Patna.
4. Government Ayurvedic College, Gauhati.
5. Government Ayurvedic College, Jammu.
6. Government Central Pharmacy, Bangalore.
7. Government College of Indian Medicine, Tirunelveli.
8. Government Ayurvedic College, Trivandrum.

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Composite Drug Research Scheme (Pharmacognosy Units) :

1. Indian Drug Research Association, Poona (2 Units).
2. L.M. College of Pharmacy, Ahmedabad.
3. Ayurved Research Institute, Trivandrum.
4. National Botanic Garden, Lucknow (2 Units and Survey and Supply).
5. Regional Research Laboratory, Jammu.
6. Punjab University, Chandigarh (2 Units).
7. Bose Institute, Calcutta.
8. Aligarh Muslim University, Aligarh.

Composite Drug Research Scheme (Chemistry Units) :

1. National Chemical Laboratory, Poona.
2. Osmania University, Hyderabad.
3. Delhi University, Delhi (4 Units).
4. Kerala University, Trivandrum.
5. Calcutta University, Calcutta (2 Units).
6. Institute of Medical Sciences, Banaras Hindu University, Vanarasi.
7. Aligarh Muslim University, Aligarh.

Composite Drug Research Scheme (Pharmacology Units) :

1. Haffkine Institute, Bombay (2 Units) :
2. S.M.S. Medical College, Jaipur.
3. Medical College, Trivandrum.
4. K.G. Medical College, Lucknow.
5. Institute of Medical Sciences, Banaras Hindu University, Varanasi.
6. Lady Hardinge Medical College, New Delhi.
7. Gandhi Medical College, Bhopal.
8. All India Institute of Medical Sciences, New Delhi.
9. Calcutta University, Calcutta.
10. Aligarh Muslim University, Aligarh.

Composite Drug Research Scheme (Clinical Units) :

1. Ayurvedic Team at Seth Tarachand Ramnath Charitable Ayurvedic Hospital, Poona.

   Allopathic Team at B.J. Medical College, Poona.

2. Ayurvedic Team at R.A. Podar Ayurvedic Hospital Bombay.
   Allopathic Team at J.J. Group of Hospital, Bombay.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3. Ayurvedic Team at New Civil Hospital, Ahmedabad.
   Allopathic Team at New Civil Hospital, Ahmedabad.
4. Ayurvedic Team at Government Ayurvedic Coliege, Trivandrum.
   Allopathic Team at Government Medical College, Trivandrum.
5. Ayurvedic Team at State Ayurvedic College, Lucknow.
   Allopathic Team at K.G. Medical College, Lucknow.
6. Ayurvedic Team at Institute of Medical Sciences, Banaras Hlndu University, Varanasi.

   Allopathic Team at Institute of Medical Sciences Banaras Hindu University, Varanasi.
7. Ayurvedic Team at Central Research Institute for Ayurveda. Patiala.

   Allopathic team at Medical College, Patiala.
8. Allopathic Team at Government Ayurvedic College, Gwalior.
   Allopathic Team at G.R. Medical College, Gwaiior.
9. Ayurvedic Team at Safdarjang Hospital, New Delhi.
   Allopathic Team at All India Institute of Medieal Sciences, New Delhi.
10. Aligarh Muslim University, Aligarh.

Drug Standardisation Research Unirs :

1. Ayurveda Vikas Mandal Pharmacy. Junagadh.
2. Government Central Pharmacy, Bangalore.
3. All India Institute of Medical Sciences, New Delhi.
4. Ayurvedic Research Institute, Trivandrum.
5. Institute of History of Medicine and Medical Research (Unani), New Delhi.
6. Captain Srinivasamurthy Research Institute (Ayurveda, Siddha, Preliminary Drag Standardisation Research Unit), Madras.
7. All India Institute of Medical Sciences (Homoeopathy), New Delhi.
8. Dalvar Homoeopathic Medical College (Homoeopathy), Patna.

Extractton Supply Units :

1. Calcutta University, Calcutta.
2. Kerala University, Trivandrum.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Unit for Toxicity Studies :

1. L.L.R. Medical College, Meerut.
2. Haffkine Institute, Bombay.

Drug Proving Units (Homoeopathy) :

1. D.N. De Homoeopathic Medical College, Calcutta.
2. K.N.H. Homoeopathic Medical College, Bhagalpur.
3. Midnapore Homoeopathic Medical Coliege, Midnapore.
4. National Homoeopathic Medical College, Lucknow.
5. Homoeopathic Medical College, Belgaum.
6. Central Drug Proving Cell, Headquatters, New Delhi.

Clinical Research Units/Fact Finding Mobile Clinical Research Units :

1. Dr. A. Lakshmipathi Unit for Research in Indian Medicine, Voluntary Health Services, Madras.
2. All India Institute of Mental Health, Bangalore.
3. R.A. Podar Ayurvedic Hospital (Dietetic), Bombay.
4. R.A. Podar Ayurvedic Hospital (Panchakarma), Bombay.
5. Central Research Institute (Ayurveda), Patiala.
6. Government Ayurvedic Hospital, Baroda.
7. Ayurvedic and Unani Tibbia College, New Deihi.
8. Ayurvedic College, Kottakkal.
9. Government Ayurvedic College, Hyderabad.
10. Ayurvedic and Unani Tibbia College (Unani) New Delhi.

11. & 12. A.A. Hospital (Siddha & Unani) (2 Units), Madras.

13. Vishwayatan Yogashram (Yoga), New Delhi.
14. Patanjali Yoga Research Institute (Yoga), Hyderabad.
15. Yoga Sadhanashram (Yoga), Ahmedabad.
16. Yoga Treatment-cum-Research Centre (Yoge), Jaipur.
17. Delhi Yoga Sabha (Yoga), Delhi.
18. Shivanand Math (Yoga), Gauhati.
19. Athurashramam Homoeopathic Medical College (Homoeopathy), Kottayam.
20. Dr. Gururaju Government Homoeopathic College (Homoeopathy), Gudiwada.

Fact Finding Mobile Clinical Research Units :

21. Shri Krishna Ayurvedic College, Kurukshetra.
22. Civil Hospital, Vidisha.
23. Central Research Institute (Ayurveda), Patiala.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

24. Institute of Medical Sciences, Banaras Hindu University, Varanasi.
25. Under Graduate Ayurvedic College, Gujarat Ayurvedic University, Jamnagar.
26. Government Central Pharmacy, Bangalore.
27. Central Research Institute (Ayurveda) Cheruthuruthy.

Literary Research Unit :

1. T.M.S.S.M. Library, Thanjavur.
2. Gujarat Ayurved University, Jamnagar.
3. Takmil-u-Tibb Unani College (Unani), Lucknow.
4. Aligarh Muslim University (Unani), Aligarh.
5. Government College of Indian Medicine (Siddha), Tirunelveli.
6. Drug Research Laboratory (Guidance Manual), Baroda.

Enquiries

Preliminary Standardisation Research :

1. Gujarat Ayurvedic University, Jamnagar.
2. Institute of Medical Sciences, Banaras Hindu University, Varanasi.

Composite Drug Research Scheme :

1. Dr. A. Lakshmipathi Unit for Research in Indian Medicine, Voluntary Health Services, (Clinical), Madras.
2. Maulana Azad Medical College (Clinical), New Delhi.
3. Wellingdon Hospital (Clinical), New Delhi.
4. Central Drug Research Institute (Extraction Supply), Lucknow.

Drug Standardisation Enquiries :

1. Academy of Ayurveda, Vijayawada.
2. Government Ayurvedic Pharmacy, Hyderabad.
3. Osmania Medical College, Hyderabad.

Collection of Source Material Units :

1. New Delhi.
2. Berhampur.
3. Patna.
4. Varanasi.

Clinical :

1. *Vijayasara* in the treatment of *madhumeha* at Government Ayurvedic College, Jammu.
2. Aetiopathogenesis and treatment of *timira* at Rishikul Ayurvedic College, Hardwar.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3. Indigenous drugs on thyrold swellings at Ayurvedic College, Gurukul Kangri, Hurdwar.
4. *Arogyavardhini* in hypercholesteraemic conditions at State Ayurvedio College, Lucknow.
5. Pathogenesis and treatment of *kamala* and *yakritroga* at Institute of Medical Sciences, Banaras Hindu University, Varanasi.
6. *Guggulu* in obesity and othor lipid disorders at Institute of Medical Sciences, Banaras Hindu University, Varanasi.
7. *Varuna* and *kulatha* in the management of urinary calculus at Institute of Medical Sciences, Banaras Hindu University, Varanasi.
8. Studies on

   i) Ayurvedic drugs in the management of wounds.

   ii) Principles and techniques of *nasyakarma*.

   lii) Treatment of ano-rectal disorders at Institute of Medical Sciences, Banaras Hindu University, Varanasi.
9. Treatment of worms with *paribhadra* and *kampillak* at Government Ayurvedic College, Gauhati.
10. *Agni* with relation to *jatharagni* at Institute of Medical Sciences, Banaras Hindu University, Varanasi.
11. *Prakriti* and disease proneness at Tilak Ayurved Mahavidyalaya, Poona.
12. Endocrine response to *Rasayana* at Institute of Medical Sciences, Banaras Hindu University, Varanasi.
13. *Shodhana* in *pittaja khudra kunshta* at Akhandanand Auyaredic College, Ahmedabad.
14. *Basti* and *shoola* at Maniben Ayurvedic Hospital, Ahmedabad,
15. Studies on *Sandhigata vata, Gridhrasi* at A.A. Government Hospital of Indigenous Medicine, Madras.

Family Planning (Clinical) :

1. Ayurveda Research Institute, Trivandrum.
2. R.A. Podar Ayurvedic College, Bombay.
3. Central Research Institute (Ayurveda), Patiala.
4. State Ayurvedic College, Lucknow.
5. Regional Research Institute (Ayurveda), Calcutta.
6. Regional Research Institute (Ayurveda), Jaipur.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

7. Institute of Medical Sciences, Banaras Hindu University, Varanasi.
8. Goverament Tibbia College (Unani), Hyderabad.

Family Planning (Chemico-Pharmacological) :

1. All India Institute of Medical Sciences, New Delhi.
2. Gujarat Ayurveda University, Jamnagar.
3. Institute of Medical Sciences, Banaras Hindu University, Varanasi.
4. Agricultural University, Bhubaneswar.
5. Medical Gollege, Trivandrum.

Homoeopathy :

1. Institute of Medical Sciences, Banaras Hindu University, Varanasi.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Annexure II

Statewise distribution of Institutes/ Centres/Units/Enquiries

(as on 1.4.1973)

Andhra Pradesh

1. Central Research Institute (Unani), *Hyderabad.*
2. Institute of History of Medicine, *Hyderabad.*
3. Regional Research Centre; *Vijaywada.*
4. CDRS, Chemistry Unit, Osmania University, *Hyderabad.*
5. Clinical Research Unit (Ayurveda), Government Ayurvedie College, *Hyderabad.*
6. Clinical Research Unit (Homoeopathy), Dr. Gururaju Government Homoeopathic Medical College, *Gudivada.*
7. Clinical Research Unit (Yoga), Patanjali Yoga Research Institute, *Hyderabad.*
8. Drug Standardisation Research Enquiry (Ayurveda), Government Indian Medicine Pharmacy, *Hyderabad.*
9. Drug Standardisation Research Enquiry (Ayurveda), Osmania Medical College, *Hyderabad.*
10. Drug Standardisation Research Enquiry (Ayurveda), Academy of Ayurveda, *Vijayawada.*
11. Family Planning Clinical Research Unit (Unani), Government Tibbia College, *Hyderabad.*

Assam

1. Survey of Medicinal Plants Unit, Government Ayurvedic College, *Gauhati.*
2. Clinical Research Enquiry (Ayurveda), Government Ayurvedic College, *Gauhati.*
3. Clinical Researeh Unit (Yoga), Shivanand Math,*Gauhati.*

Bihar

1. Survey of Medicinal Plants Unit, Government Ayurvedic College, *Patna.*
2. Drug Standardisation Research Unit (Homoeopathy), Dalvar Homoeopathic Medical College, *Patna.*

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3. Drug Proving Unit (Homoeopathy), K.N.H. Homoeopathic Medical College, *Bhagalpur.*
4. Collection of Source Material Unit (Ayurveda), Vaidyanath Ayurved Bhavan, *Patna.*

Delhi and Union Territories :

1. Regional Research Institute (Homoeopathy), Nehru Homoeopathic Medical College, *New Delhi.*
2-5. CDRS Chemistry Unit, Department of Chemistry, Delhi University, *Delhi.*
6. CDRS Pharmacology Unit, All India Institute of Medical Sciences, *New Delhi.*
7. CDRS Pharmacology Unit, Lady Hardinge Medical College, *New Delhi.*
8. CDRS Clinical Team (Ayurveda), Safdarjang Hospital, *New Delhi.*
9. CDRS Clinical Team (Allopathy), All India Institute of Medical Sciences, *New Delhi.*
10. Drug Standardisation Research Circuit (Ayurveda), All India Institute of Medical Sciences, *New Delhi.*
11. Drug Standardisation Research Unit (Unani), Institute of History of Medicine and Medical Research, *New Delhi.*
12. Drug Standardisation Research Unit (Homoeopathy), All India Institute of Medical Sciences. *New Delhi.*
13. Central Drug Proving Cell, Headquarters, *New Delhi.*
14.&15. Clinical Research Unit (Ayurveda & Unani), A & U Tibbia College, *New Delhi.*
16. Clinical Research Unit (Yoga), Visewayatan Yogashram, *New Delhi.*
17. CDRS (Clinical) Enquiry, Maulana Azad Medical College, *New Delhi.*
18. CDRS (Cliuical) Enquiry, Wellingdon Hospital, *New Delhi.*
19. Collection of Source Material Unit, Moolchand Khairatiram Hospital, *New Delhi.*
20. Clinical Research Uuit (Yoga), Delhi Yogasabha, *New Delhi.*
21. Chemico-Pharmacological Family Planning Research Unit, All India Institute of Medical Sciences, *New Delhi.*
22.&23. CDRS Pharmacognosy Unit, Department of Botany, Punjab University, *Chandigarh.*

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

24. Headquarters and Documentatinn Section, *New Delhi.*

Gujarat :

1. Survey of Medicinal Plants Unit, Government Ayurvedic Pharmacy College, *Rajpipla.*
2. CDRS Pharmacognosy Unit, L.M. Pharmacy College, *Ahmedabad.*

3.&4. GDRS Clinical (Ayurvedic and Allopathic) Teams, New Civil Hospital, *Ahmedabad.*

5. Drug Standardisation Research Circuit (Ayurveda), Gujarat Ayurveda Vikas Mandal Pharmacy, *Junagadh.*
6. Ayurvedic Mobile Research Unit, Gujarat Ayurved University, *Jamnagar.*
7. Literary Research Unit, Gujarat Ayurved University, *Jamnagar.*
8. Preliminary Drug Standardisation Research Unit, Gujarat Ayurved University, *Jamnagar.*
9. Clinical Research Enquiry (Ayurveda), A.A. Hospital, *Ahmedabad.*
10. Clinical Research Enquiry (Ayurveda), M.A. Hospital, *Ahmedabad.*
11. Clinical Research Unit (Yoga), Yogasadhanashram, *Ahmedabad.*
12. Guidance Mannual, Drug Research Laboratory, *Baroda.*
13. Clinical Research Unit (Ayurveda), Government Ayurvedic Hospital, *Baroda.*
14. Chemico-Pharmacological Family Planning Research Unit, Gujarat Ayurved University, *Jamnagar.*
15. Family Planning Clinical Screening Unit, Akhandanand Ayurvedic Hospital, *Ahmedabad.*

Haryana

1. Ayurvedic Mobile Research Unit, Krishna Ayurvedic College, *Kurukshetra.*

Himachal Pradesh :

1. Regional Research Centre, *Joginder Nagar,*

Jammu & Kashmir :

1. Survey of Medicinal Plants Unit, Governmeut Ayurvedic College, *Jammu.*
2. CDRS Pharmacognosy Unit, Regional Research Laboratory, *Jammu.*
3. Clinical Research Enquiry (Ayurveda), Government Ayurvedic College, *Jammu.*

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Karnataka :

1. Survey of Medicinal Plants Unit, Government Central Pharmacy, *Bangalore.*
2. Drug Standardisation Research Circuit (Ayurveda), Government Central Pharmacy, *Bangalore.*
3. Drug Proving Uuit (Homoeopathy), Homoeopathic Medical College, *Belgaum.*
4. Ayurvedic Mobile Research Unit, Government Central Pharmacy, *Bangalore.*
5. Clinical Research Unit (Ayurveda), All India Institute of Menta Health, *Bangalore.*
6. Family Planning Clinical Screening Unit, Shri Jayachamarajendra Institute of Indian Medicine, *Bangalore.*

Kerala :

1. Central Research Institute (Ayurveda), *Cheruthuruthy.*
2. Survey of Medicinal Plants Unit, Government Ayurvedic College, *Trivandrum.*
3. CDRS Pharmacognosy Unit, Ayurvedic Research Institute, *Trivandrum.*
4. CDRS Chemistry Unit, Department of Chemistry, Kerala University, *Trivandrnm.*
5. CDRS Pharmacology Unit, Government Medical College, *Trivandrum.*
6. CDRS Clinical (Allopathic) Team, Government Medical College, *Trivandrum.*
7. CDRS Clinical (Ayurvedic) Team, Government Ayurvedic College, *Trivandrum.*
8. Drug Standardisation Research Circuit (Ayurveda), Ayurvedic Research Institute. *Trivandrum.*
9. Clinical Research Unit (Homoeopathy), Athurashram Homoeopathic Medical College, *Kottayam.*
10. Ayurvedic Mobile Researeh Unit, Central Research Institute (Ayurveda), *Cheruthurthy.*
11. Family Planning Clinical Screening Unit Ayurvedic Research Institute, *Trivandrum.*

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

12. Chemico-Pharmacological Family Planning Research Unit, Government Medical College, *Trivandrum.*

13. Clinical Research Unit (Ayurveda), Ayurveda College, *Kottakkal.*

14. Extraction Supply Unit, Department of Chemistry. Kerala University, *Trivandrum.*

Madhya Pradesh :

1. Survey of Medicinal Plants Unit, Government Ayurvedic College, *Gwalior.*

2. CDRS Pharmacology Unit, Gandhi Medical College *Bhopal.*

3. CDRS Clinical Team (Ayurvedic), Government Ayurvedic College, *Gwalior.*

4. CDRS Clinical Team (Allopathic), G.R. Medical College, *Gwalior.*

5. Ayurvedic Mobile Research Unit, New Civil Hospital, *Vidisha.*

Maharashtra :

1. Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium and Museum, *Poona.*

2. Regional Research Centre, *Nagpur.*

3-4. CDRS Pharmacognosy Unit, Iudian Drug Research Association, *Poona.*

5. CDRS Chemistry Unit, National Chemical Laboratory, *Poona.*

6-7. CDRS Pharmacology Unit, Haffkine Institute, *Bombay.*

8. CDRS Clinical Team (Ayurveda), Seth Tarachand Ramnath Charitable Ayurvedic Hospital, *Poona.*

9. CDRS Clinical Team (Allopathic), B.J. Medical College, *Poona.*

10. CRDS Clinical Team (Ayurvedic), R.A. Podar Ayurvedic College, *Bombay.*

11. CRDS Clinical Team (Allopathic), J.J. Group of Hospitals, *Bombay.*

12 Toxicity Studics Unit, Haffkine Institute, *Bombay.*

13. Clinical Research Unit (Ayurvedic-Dietetic), R.A. Podar Ayurvedic Hospital, *Bombay.*

14. Clinical Research Unit (Ayurvedic-Panchakarma), R.A. Podar Ayurvedic Hospital, *Bombay.*

15. Clinical Research Enquiry (Ayurveda), Tilak Ayurvedic Mahavidyalaya, *Poona.*

16. Family Planning Clinical Screening Unit, R.A. Podar Ayurvedic College, *Bombay.*

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Orissa :

1. Regional Research Institute, (Ayurveda), *Bhubaneswar.*
2. Collection of Source Material Unit, Shiromani Press, *Berhampur.*
3. Chemico-Phasmacological Family Planning Research Unit, Agricultural University, *Bhubaneswar.*

Punjab :

1. Central Research Institute (Ayurveda), *Patiala.*
2. CDRS Clinical Team (Ayurveda), Centtal Research Institute (Ayurveda), *Patiala.*
3. CDRS Clinical Team (Allopathic), Government Medical College, *Patiala.*
4. Clinical Research Unit (Ayurveda), Central Research Institute (Ayurveda), *Patiala.*
5. Family Planning Clinical Screening Unit, Central Research Institute (Ayurveda), *Patiala.*
6. Ayurvdic Mobile Rcsearch Unit, Central Research Institute (Ayurveda), *Patiala.*

Rajasthan :

1. Regional Research Institute (Ayurveda), *Jaipur.*
2. CDRS Pharmacology Unit, S.M.S. Medical College, *Jaipur.*
3. Clinical Reseatch Unit (Yoga), Yogic Treatment-cum-Research Centre, *Jaipur.*

Tamil Nadu :

1. Central Research Institute (Siddha), *Madras.*
2. Survey of Medicinal Plants Unit, Government College of Indian Medicine, *Tirunelveli*

3-5. Drug Standardisation Research Unit (Ayurveda and Siddha and Preliminary Drug Standardisation Research Unit), Capitain Srinivasamurthy Research Institute, *Madras.*

6. Clinical Research Unit (Ayurveda), Dr. A. Lakshmipati Unit for Research in Indian Medicine, V.H.S.. *Madras.*
7. Clinical Research Unit (Siddha), Arignar Anna Hospital, *Madras.*
8. Clinical Research Unit (Unani), Arignar Anna Hospital, *Madras.*
9. Literary Research Unit, T.M.S.S.M. Library, *Thanjavur.*
10. Clinical Research Enquiry (Ayurveda), Arignar Anna Hospital, *Madras.*

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

11. CDSS Enquiry (Clinical), Dr. A, Lakshmipati Unit for Research in Indian Medicine, V.H.S., *Madras.*

12. Literary Research Unit (Siddha), Government College of Indian Medicine, *Tirunelveli.*

Uttar Pradseh :

1. Amalgamated Unit, Government Pharmaceutical Laboratory, *Ranikhet.*

2. Regional Research Centre, *Jhansi.*

3-4. Amalgamated Unit (CDRS), National Botanic Garden, *Lucknow.*

5. CDRS (Unani) Pharmacognosy Unit, Aligarh Muslim University, *Aligarh.*

6. CDRS Chemistry Unit, Institute of Medical Sciences, Banaras Hindu University, *Varanasi.*

7. CDRS (Unani) Chemistry Unit, Aligarh Muslim University, *Aligarh.*

8. CDRS Pharmacology Unit, K.G. Medical College, *Lucknow.*

9. CDRS Pharmacology Unit, Institute of Medical Sciences, Banaras Hindu University. *Varanasi.*

10. CDRS (Unani) Pharmacological Unit, Aligarh Muslim University, *Aligarh.*

11. CDRS Clinical (Ayurvedic) Team, State Ayurvedic College, *Lucknow.*

12. CDRS Clinical (Ayurvedic) Team, Institute of Medical Seiences, Banaras Hindu Univerity, *Varanasi.*

13. CDRS Clinical (Allopathic) Teum, K.G. Medical College, *Lucknow.*

14. CDRS Clinical (Allopathic) Team, Institute of Medical Sciences, Banaras Hindu University. *Varanasi.*

15. CDRS (Unani), Clinical Teams, Aligarh Muslim University, *Aligarh.*

16. Toxicity Studies Unit, L.L.R. Medical College, *Meerut.*

17. Drug Proving Unit (Homoeopathy), National Homoeopathic Medical College, *Lucknow.*

18. Ayurvedic Mobile Research Unit, Institute of Medical Sciences, Banaras Hindu Universty, *Varanari.*

19. Literary Research Unit (Unani) Aligarh Muslim University, *Aligarh.*

20. CDRS Enquiry (Extraction Supply), Central Drug Research Institute, *Lucknow.*

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

21. Collection of Source Material Unit, Varanaseeya Sanskrit Vishwavidyalaya, *Varanasi.*

22. Clinical Research Enquiry (Ayurveda), Gurukul Kangri Ayurvedic Vidalaya, *Hardwar.*

23. Clinical Research Enquiry (Ayurveda), Rishikul Ayurvedic College *Hardwar.*

24. Clinical Research Enquiry (Ayurveda), State Ayurvedic Colleg *Lvcknow.*

25-30. Clinical Research Enquiries (Ayurveda), Institute of Sciences, Banaras Hindu University, *Varanasi.*

31 Family Planning Clinical Screening Unit, State Ayurvedic College, *Lucknow.*

32. Family Planning Clinical Sereening Unit, Institute of Medical Sciences, Banaras Hindu University, *Vanarasi.*

33. Chemico-Pharmacological Family Planning Research Uuit, Institute of Medial Sciences, Banaras Hinpu University, *Varanasi.*

34. Chemico-Pharmacological Research Unit (Homoeopathy), Institute of Medical Sciences, Banaras Hindu University, *Varanasi.*

35. Journal of Research in Indian Medicine Institute of Medical Sciences, Banaras Hindu University, *Varanasi.*

36. Literary Research Unit (Unani), Takmil-ut-Tibb College, *Lucknow.*

37. Preliminary Drug Standardization Research Unit, Institute of Medical Sciences, Banaras Hindu University, *Varanasi.*

38. CDRS (Unani) Allopathic Team, Aligarh Muslim Universit, *Aligarh.*

West Bengal :

1. Central Research Institute (Homoeopathy), *Calcutta.*

2. Regional Research Institute (Ayurveda), *Calcutta.*

3. CDRS Pharmacognosy Unit, Bose Institute, *Calcutta.*

4-5. CDRS Chemical Research Units, University College of Sciences Calcttua University, *Calcutta.*

6. CDRS Pharmacology Unit, Calcutta University, *Calcutta.*

7. Exteraction Supply Unit, University College of Science, Calcutta University, *Calcutta.*

8. Drug Proving Unit (Homoeopathy), D.N. De Homoeopathic Medical College, *Calcutta.*

9. Drug Proving Unit (Homoeopathy), Midnapore Homoeopathic Medical College, *Midnapore.*

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

CENTRAL COUNCIL FOR RESEARCH IN

Statement Of Receipts and

RECEIPTS		AMOUNT
1		2
		Rs.
1. Opening Balance		
a) Headquarters Office :		
i) Cash in hand	1,680.01	
ii) Cash at Bank	6,412.34	
iii) Expenditure out of imprest advance not recouped	139.38	8,231.73
b) Opening Balance with decentralised Units :		1,36,711.71
2. Lump sum fund released in March, 1972 but received in April, 1972 by the decentralised units :		80,000.00
3. Adjustment in the closing balance of the decentralised Units :		47,012.39
4. Imprest Advance refunded by the Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona but not received in the Headquarters Office (adjustment entry in the opening balance) :		1,000.00
5. Imprest advance with the Units		72,355.00
6. Grant-in-aid received from the Govt.		
i) Indian Systems of Medicine	97,00,000.00	
ii) Family Planning Scheme	2,80.000.00	
iii) Orientation Training of Drug Inspectors in I.S.M.	30,000.00	
		1,00,10,000.00
7. Subscriptions for journals		3,870.48
8. Security deposit for Moblie Van etc.		2,610.00
C/O	Total	1,03,6 1,791.31

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

INDIAN MEDICINE AND HOMOEOPATHY

Payments During the Year 1972-73

PAYMENTS		AMOUNT
3		4
		Rs.
1. Headquarters Office		
a) Pay and allowances	3,34,617.65	
b) Travelling allowance	1,31.684.73	
c) Contingencies:		
i) Consumable & Miscellaneous expenses	2,55,144.52	
ii) Non-consumable stores	23,974.24	
d) Advances		
i) Travelling allowance	5,530.00	7.50,951.14
e) Income Tax paid		49,630.50
f) Leave salary and pcnsion contribution		20,570.65
g) C.P.F. recoveries transferred to C.P.F. account of CCRIMH		95,802.05
h) General rccoveries (paid to other offices etc.)		21,153.00
i) Payment of undisbursed salary as on 31st March, 1972		434.00
j) Refund of security deposit		4,154.00
k) Payment of security deposit to the Directorate of Estates		200,00
l) Council's contribution (including interest) to CPF account		44,295.00
2. Payment of advance:		
a) Cycle advance	4.595.00	
b) Scooter advance	9,000.00	
c) Festival advance	14,560.00	28,155.00
3. Documentation Centre & Library		
a) Pay and allowances	1,08,567.25	
b) Travelling allowance	723.95	
C/O	Total	10,15,345.34

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1		2
		Rs.
	B/F	1,03,61,791.31
9.	Refund of Pay, T.A. etc. drawn in 1971-72	10,768.03
10.	Application fee	5,416.50
11.	Sales proceeds of bulletins	3,153.85
12.	Purchee fee	1,822.55
13.	Refund of unspent balance of grant-in-aid by grant-in-aid Institutions	28,127.02
14.	Refund of unspent advance by decentralised Units :	1,000.00
15.	Miscellaneous receipts :	1,954.67
16.	Recovery of Contributory Provident Fund, Tax etc. from centralised Units/ Headquarters Office payable to other offices, creditable to CPF account etc.	2,01,333.30
17.	Contingent and Travelling allowance advance paid in 1971-72 but adjusted during 1972-73	1,07,817.98
18.	Miscellaneous recoveries and receipts made by the decentralised Units	1,02,509.34
	C/O	Total 1,08,25,694.55

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3		4
		Rs.
B/F		10,15,345.34
c) Contingencies:		
i) Consumable stores and miscellaneous expenses	37,135.38	
ii) Non-consumable stores	44,273,13	
d) Advances:		
i) Travelling allowance	175,00	
ii) Contingencies	968.31	1,91,843.02
4. Publications:		
a) Pay and allowances	35,705.02	
b) Travelling allowances	658.65	
c) Contingencies;		
i) Consumable stores & Miscellaneous expenses	20,834.23	
ii) Non-consumable stores	1,880.69	59,078.59
5. Seminar and Conference:		
a) Travelling allowances	40,892.00	
b) Consumable stores & miscellaneous expenses	26,134.10	
c) Non-consumable stores	3,688.90	70,715.00
6. Prizes and Awards:		5,900.00
7. Drug Standardisation Research (Ayurveda, Unani and Siddha)		
a) Pay and allowances	4,03,614.98	
b) Travelling allowances	17,066.45	
c) Contingencies		
i) Consumable stores and miscellaneous expenses	94,502.32	
ii) Non-consumable stores	1,15,450.63	
C/O	Total	13,42,881,95

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1	2
	Rs.
B/F	1,08,25,694.55
	1,08,25,694.55

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3		4
		Rs.
B/F		13,42,881.95
d) Grant-in-aid	34,800.00	
e) Advances:		
i) Contingencies	11,526.80	6,76,961.18
8. Drug Research Scheme (CDRS):		
a) Pay and allowances	11,66,495.20	
b) Travelling allowances	39,625.59	
c) Contingencies:		
i) Consumable stores and miscellaneous expenses	2,49,168.00	
ii) Non-consumable stores	81,192.82	
d) Advances:		
i) Travelling allowance	1,800.00	
ii) Contingencies	2,259.50	15,40,541.11
9. Survey and Cultivation of Medicinal Plants Scheme:		
a) Pay and allowances	2,69,861.35	
b) Travelling allowances	39,329.29	
c) Contingencies:		
i) Consumable stores and miscellaneous expenses	82,534.20	
ii) Non-consumable stores	42,966.50	
d) Advances:		
i) Travelling allowance	2,100.00	
ii) Contingencies	500.00	4,44,291.34
e) Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona:		
i) Pay and allowances	80,905.00	
ii) Travelling allowances	5,729.70	
C/O	Total	40.04,675.58

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1	2
	Rs.
B/F	1,08,25,694.55
C/O	Total 1,08,25,694.55

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3		4
		Rs.
B/F		40,04,675.58
iii) Contingencies:		
a) Consumable store and miss-cellaneous expenses	34,085.48	
b) Non-consumable stores	35,495.18	1,56,215.36
10. Literary Research Scheme (Ayurveda, Unani and Siddha):		
a) Pay and allowances	1,15,466.40	
b) Travelling allowances	2,208.80	
c) Contingencies		
i) Consumable stores and miscel-laneous expenses	6,245.11	
ii) Non-consumable stores	110,752,94	
d) Grant-in-aid	1,34,000.00	
e) Advances:		
Travelling allowance	180.00	
ii) Contingencies	105.20	268,958.45
f) Institute of History of Medicine, Hyderabad		
i) Pay and allowances	92,086.50	
ii) Travelling allowances	4,098.40	
iii) Contingencies :		
a) Consumable stores & mis-cellaneous expenses	16,269.64	
b) Non-consumable stores	4,528,39	1,16,982.93
11. Clinical Research Scheme (Ayurveda, Unani and Siddha)		
a) Pay and allowances	7,31,349.12	
b) Travelling allowances	25,266.95	
C/O	Total	45,46,832.32

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1	2
	Rs.
B/F	1,08,25,694.55
	1,08,25,694.55

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3		4
		Rs.
B/F		45,46,832.32
c) Contingencies		
i) Consumable stores and miscellaneous expenses	1,53,808,17	
ii) Non-consumable stores	1,47,742.18	
d) Grant-in-aid	22,000.00	
e) Advances :		
i) Travelling allowances	850.00	
ii) Contingencies	850.65	10,81,867.07
f) Dr. A Lakshmipathy Unit for Research in Indian Medicine, Madras and Clinical Research Unit at the AIIMH, Bangalore :		
i) Pay and allowances	2,25,065.98	
ii) Travelling Allowances	3,505.60	
iii) Contingencies :		
a) Consumable stores and miscellaneous expenses	36,873.15	
b) Non-consumable stores	10,239.96	2,75,684.69
12. Central Research Institutes (Patiala, Cheruthuruthy, Calcutta, Madras & Hyderabad)		
a) Pay and Allowances	9,50,762.40	
b) Travelling Allowances	18,969.10	
c) Contingencies :		
i) Consumable stores and Miscellaneous expenses	4,14,391.72	
ii) Non-consumable stores	3,83,258.96	17,67,382.18
C/O	Total	76,71,766.26

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1	2
	Rs.
B/F	1,08,25,694.55
C/O	Total 1,08,25,694.55

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3		4
		Rs.
B/F		76,71,766.26
13. Regional Research Institutes (Jaipur, Bhubaneswar, Calcutta & New Delhi.)		
a) Pay and allowances	4,05,714.43	
b) Travelling allowances	15,629.99	
c) Contingencies :		
i) Consumable stores and miscellaneous expenses	1,94,224.60	
ii) Non-consumable stores	1,50,336.37	
d) Advances :		
i) Contingencies :	220.00	7,66,125.39
14. Regional Research Centres (Joginder-nagar, Nagpur and Vijayawada)		
a) Pay and Allowances :	1,97,331.99	
b) Travelling Allowances	15,459.34	
c) Contingencies :		
i) Consumable stores and msicellancous expenses :	77,782.65	
ii) Non-consumable stores	1,14,056.19	
d) Advances :		
i) Travelling Allowances	300.00	
ii) Contingencies	5,991.23	4,10,921.40
15. Amalgamated Units, Ranikhet :		
a) Pay and Allowances	1,23,644.50	
b) Travelling Allowance	10,586.94	
c) Contingencies :		
i) Consumable stores and miscellaneous expenses	35,089.12	
C/O	Total	88,48,813.05

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1		2
		Rs.
B/F		1,08,25,694.55
C/O	Total	1,08,25,694.55

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3		4
		Rs.
B/F		88,48,813.05
ii) Non-consumable stores	39,500.36	
d) Grant-in-aid	65,000.00	2,73,820.92
16. Captain Srinivasa Murthy Research Institute, Madras :		
a) Pay and Allowances	1,03,209.62	
b) Travellidg Allowances	31.44	
c) Continngencies :		
i) Consnmable stores and miscellaneous expenses	49,529.83	
ii) Non-consumable stores	17,721.60	1,70,492.49
17. Yoga :		4,56,530.00
18. Homoeopathy Scheme (Drug Standardisation, Clinical and Drug Proving)		
a) Pay and Allowances	1,03.870.55	
b) Travelling Allowances	3,893.54	
c) Contingencies		
i) Consumable stores and miscellaneous expenses	54,951.10	
ii) Non-consumable stores	32,782.98	
d) Grant-in-aid	1,58,615.24	
e) Advances :		
i) Contingencies	2,100.00	3,56,213.41
19. Family Planning Scheme :		
a) Pay and Allowances	1,97,290.35	
b) Travelling Allowances	2,386.10	
c) Contingencies :		
C/O	Total	1,01,05,869.87

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1	2
	Rs.
B/F	1,08,25,694.55
C/O	Total 1,08,25,694.55

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3		4
		Rs
B/F		1,01,05,869.87
i) Consumable stores and miscellaneous expenses	28,510.90	
ii) Non-consumable stores	17,267.72	
d) Advances :		
i) Contingencies :	13,500.00	2,58,955.07
20. Transfer to the Central Council of Indian Medicine		11,459.69
21. Adjustment in opening cash balance of Headquarters Office		262.74
22. Miscellaneous payment of recoveries etc. by the decentralised units		1.09.606.18
23. Closing balance :		
a) Headquarters Office		
i) Cash in hand	1,000.00	
ii) Cash at bank	27,003.04	28,003.04
b) Closing balance with the decentralised Units		69,482.96
c) Lumpsum released in March, 1973 but received in April, 1973 by the Decentralised Units		1,49,750.00
d) Imprest Advance as on 1-4-1972	72,355.00	
Less refund :	1,722.75	
	70,632.25	
Less adjustment :	77.25	
	70,555.00	
Add imprest advance paid during 1972-73	20,250.00	90,805.00
C/O	Total	1.08,24,194.55

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1	2
	Rs.
B/F	1,08,25,694.55
C/O	Total 1,08,25,694.55

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3	4
	Rs.
B/F	1,08,24,194.55
e) Imprest advance refunded by the Jawaharlal Nehru Ayurvedic Medicinal Plants Garden and Herbarium, Poona (contra entry)	1,000.00
f) Advance given to Regional Research Institute, Calcutta for opening current account	500.00
Total	1,08,25,694.55

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

CENTRAL COUNCIL FOR RESEARCH IN

Statement of Income and Expenditure

EXPENDITURE	AMOUNT
1	2
	Rs.
1. Headquarters Office	
a) Pay and allowances	3,34,617.65
b) Travelling Allowance	1,31,684.73
c) Consumable stores and Miscellaneous expenses	2,55,144.52
d) Leave salary and Pansion contribution	20,570.65
e) C.P.F. Contribution (including interest) to C.P.F. Account	44,295.00
2. Documentation Centre-cum-Library	
a) Pay and Allowances	1,08,567.25
b) Travelling allowance	723.95
c) Consumable stores and miscellaneous expenses	37,135.38
3. Expenditure of Institutes/Centres/Units:	
a) Pay and allowances	49,69,378.02
b) Travelling Allowance	2,01,401.13
c) Consumable stores and miscellaneous expenses	15,06,455.09
4. Family Planning Scheme :	
a) Pay and Allowances	1,97,290.35
b) Travelling Allowances	2,386.10
c) Consumable Stores and Miscellaneous expenses	28,510,90
5. Publications	57,197.90
6. Prizes and awards	5,900.00
Carried Over Total	79,01,258.62

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

INDIAN MEDICINE AND HOMOEOPATHY

Account For The Year 1972-73

	INCOME		AMOUNT
	3		4
			Rs.
1.	Grant-in-aid from the Govt. of India		1,00,10,000.00
2.	Subscriptlons for Journals		3,870.48
3.	Refund of Pay, Travelling allowance etc. drawn in 1971-72		10,768-03
4.	Application fee		5,416.50
5.	Sales proceeds of bulletins		3,153.85
6.	Purchee Fee		1,822.55
7.	Refund of unspent balance of grant-in-aid by grant-in-aid Institutions		28,127.02
8.	Refund of imprest advance		1,000.00
9.	Recoveries of CPF. Income Tax etc. payable to other offices, creditable to CPF account		
	i) By Headquarters Office	2,01,333.30	
	ii) By Decentralised Units	1,02,509.34	3,03,842.64
10.	Contingent and Travelling Allowances paid in 1971-72 but adjusted in 1972-73		1,07,817.98
11.	Miscellaneous receipts		1,954.67
12.	Transfer to CCRIMH of non-consumable articles of grant-in-aid units taken over under direct control/closed		5,27,262,82
13.	Adjustment in closing balance of decentralised Units		47,012.39
	C/O	Total	1,10,52,048.93

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1		2
		Rs.
	B/F	79,01,258.62
7. Expenses on Seminars and Conferences		67,026,10
8. Grant-in-aid to grant-in-aid units		8,70,945.24
9. Scooter, Cycle and festival advances		28,155.00
10. Income tax paid		49,630.50
11. C.P.F. recoveries transferred to CPF account of CCRIMH		95,802.05
12. Miscellaneous recoveries paid to other offices etc.		
i) By Headquarters Office	21,153.00	
ii) By Decentralised Units	1,09,606.18	1,30,759.18
13. Salary, T.A. and contingencies outstanding for payment		6,34.879.13
14. Income tax etc. outstanding for payment		3,012.00
15. Council's contribution to C.P.F. for 1972-73 outstanding for payment		1,17,633.25
16. Transfer to the Central Council of Indian Medicine		11,459.69
17. Adjustment in opening cash balance of Headquarters Office		262.74
18. Payment of undisbursed salary as on 31-3-1972.		434.0(
19. Refund of security deposit		4,154.(
20. Transfer of consumable articles wrongly shown as non-consumable articles in the account of 1971-72 (CRI-H)		4,17
C/O	Total	99,19,

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3	4
	Rs.
B/F	1,10,52,048.93
Total	1,10,52,048.93

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

CENTRAL COUNCIL FOR RESEARCH IN

Balance Sheet As

LIABILITIES		AMOUNT
		Rs.
1. Capital Fund		
a) Value of assets acquired and contingent advances outstanding in the previous year	36,87,911.87	
b) Less security deposits refundable	5,846.00	
	36,82,065.87	
c) Less contingent/T.A. advances of previous year adjusted	1,15,727.49	
	35,66,338.38	
d) Less security deposit refunded by the Director of Estates	946.00	
	35,65,392,38	
e) Add transfer from the Statement of Income and Expenditure	11,12,843.26	46,78.235,64
2. Outstanding liabilities		
a) Salary, T.A. and contingencies	6,34,879.13	
b) Income Tax payable	3,012.00	
c) Council's contribution to CPF for 1972-73	1,17,633.25	7,55,524.38
3. Liabilities on security deposit :		
a) Balance of previous year	5,846.00	
b) Add during 1972-73	2,610.00	8,456.00
C/O	Total	54,42,216.02

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

INDIAN MEDICINE AND HOMOEOPATHY

On 31 March, 1973

ASSETS		AMOUNT
		Rs.
1. **Closing balance :**		
i) Headquarters Office		
a) Cash in hand	1,000.00	
b) Cash at Bank	27,003.04	28,003.04
ii) Closing balance with the decentra. lised uuits		69.482.96
iii) Lump sum released in March 1973 but received in April 1973 by the decentralised units		1,49,750.00
iv) Imprest advance		91,805.00
v) Advance to R.R.I., Calcutta for opening current account		500.00
2. **Assets :**		
i) Non-consumable stores:		
a) Headquarters	1,65,115.31	
b) Documentation Centre	1,85,704,55	
c) Publications	12,093.96	
d) Drug Standardisation Research Scheme	3,81,050.12	
e) Drug Research Scheme (CDRS)	2,03,586.97	
f) Survey and Cultivation of Medicinal Plants Scheme	5,15,048.67	
g) Llterary Research Scheme	1,34,986.48	
h) Clinical Research Scheme	8,33,661.92	
i) Central Research Institutes	15,53,359.61	
j) Regional Research Centres	1,41,077.27	
k) Amalgamated Units	1,80,169,50	
l) Captain Srinivasa Murthy Research Institute	1,69,281.10	
C/O	Total	3,39,541.00

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1	2
	Rs.
B/F	54,42,216.02
Total	54,42,216.02

Sd/-
(K.K. SUBRAMANIAN)
ASSISTANT DIRECTOR (ADMN)
C.C.R.I.M.H.

Sd/-
(J.K. DASS)
ACCOUNTS OFFICER
C.C.R.I.M.H.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3			3
			Rs.
	B/F		3,39,541.00
	m) Homoeopathy Research Scheme	1,96,430.98	
	n) Family Planning Research Scheme	48,364.31	
	o) Building (JNAMPG & H	98,005.00	49,68,272.12
3.	Contingent advance to the Units/ Institutes	1,92.186.70	
	Less adjustment	1,07,990.49	
		84,196.21	
	Add advances paid during 1972–73	38,021.69	1,22,217.90
4.	T.A. advances to the Units	8,787.00	
	Less adjustment	7,737,00	
	Add advances paid during 1972-73	1,050.00	11,985.00
5.	Security Deposit to the Directorate of Estates		200.00
		Total	54,42,216.02

I have examined the foregoing accounts and Balance Sheet of the Central Council for Research in Indian Medicine and Homoeopathy, New Delhi and obtained all the informations that I have required and subject to observations in the Inspection Report appended, I certify as a result of my audit, that in my opinion these accounts and the Balance sheet are properly drawn up so as to exhibit a true and fair state of affairs of the Council according to the best of my information and explanations given to me and as shown by the Books of the Council.

Sd/-
(P.N.V. KURUP)
DIRECTOR
C.C.R.I.M.H

Sd/-
(D.P. SHARMA)
ACCOUNTS OFFICER
A.G.C.R, NEW DELHI

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

CENTRAL COUNCIL FOR RESEARCH IN

Statement Showing Receipts and Payment of Central Council for

C.P. Fund Account for

RECEIPTS

S. No.	Particulars	Amount
		Rs.
1.	Opening balance (Savings Bank Account)	61,057.15
2.	Subscriptions for 1971-72	1,941.00
3.	Subscriptions and refund of advances during 1972-73	1,07,876.10
4.	Transfer of C.P.F. from other offices	6,860.00
5.	Subscription for 1972-73 (to be refunded)	7.45
6.	Receipt relating to current account (to be refunded)	257.35
7.	Interest on Savings Bank account	2,014.58
	Total	1,80,013.63

Sd/-
(P.N.V. KURUP)
DIRECTOR
C.C.R.I.M.H.

Sd/-
(K.K. SUBRAMANIAN)
ASSISTANT DIRECTOR (ADMN.)
C.C.R.I.M.H.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Research in Indian Medicine and Homoeopathy

the Year 1972-73

PAYMENTS

S. No.	Particulars		Amount
			Rs.
1.	Amount deposited in Fixed Deposit Account		84,685.00
2.	C.P.F. Advances paid		10,500.00
3.	Final paymenr of C.P.F.		
	Subscription	13,878.60	
	Contribution	2,481.00	16,359.60
4.	Commission charged		48.88
5.	Transfer to current account		50.00
6.	Closing balance (Savings Bank account)		68,370.15
			1,80,013.63

Sd/-
(J.K. DASS)
ACCOUNTS OFFICER
C.C.R.I.M.H.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

CENTRAL COUNCIL FOR RESEARCH IN

Balance Sheet of C.P:F.

Liabilities		Amount
1		2
		Rs.
1. Subscriber's Acconnt :		
a) Opening balance	1,35,772.50	
b) Subscription deposited during 1972-73	1,14,736.10	
c) Subscriptions due for 1972-73 but not deposited	11,899.90	
d) Interest due for 1972-73 but not deposited	10,571.10	
	2,72,979.60	
Less withdrawal	24,378.60	2,48,601.00
2. Council's contribution account :		
a) Opening balance	90,428.00	
b) Council's contribution due for 1972-73 but not deposited	85,240.00	
c) Interest due for 1972-73 but not deposited	4,934.00	
	1,80,652.00	
d) Less withdrawal	2,481.00	1,78,171.00
3. Interest on Fixed Deposit **and S.B. Account :**		
a) Opening balance	7,010.15	
b) Interest on S.B. Account during 1972-73	2,014.58	
c) Interest accrued on fixed deposit during 1972-73 but not credited	9,948.36	18,973.09
4. Subscription to be refunded		7.45
C/O	**Total**	4,45,752.54

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

INDIAN MEDICINE AND HOMOEOPATHY

Account As On 31-3-1973

Assets		Amount
3		4
1. **Fixed Deposit :**		Rs.
a) Opening balance	1,65,796.00	
b) Add deposits during 1972-73	84,685.00	2,50,481.00
2. Interest due for the year 1971-72 to be deposited		4,938.25
3. Subscription contribution and interest due for 1972-73 to be deposited (contra) (Rs. 11899.90+Rs. 10571.10+ Rs, 8524C+Rs. 4984)		1,12,695.00
4. Interest accrued on fixed deposit (contra)		9,948.36
5. Subscription and advances recovered in March, 1973 but to be credited in April, 1973 (contra)		9,349.00
6. Commission paid		48.88
7. Closing balance (S.B. Account)		68,370.15
	Total	**4,55,830.64**

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

1		2
		Rs.
	B/F	4,45,752.54
5.	Receipts to current account (to be transferred)	257.35
6.	Subscriptions and advances recovered in March, 1973 to be credited in April, 1973	9,349.00
7.	Excess amount of subscriptions deposited to CPF account	471.75
	Total	4,55,830.64

Sd/-
(P.N.V. KURUP)
DIRECTOR
C.C.R.I.M.H.

Sd/-
(K.K. SUBRAMANIAN)
ASSISTANT DIRECTOR (ADMN)
C.C.R.I.M.H.

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

3	4
	Rs.
B/F	4,55,830,64
Total	4,55,830,64

I have examined the foregoing accounts and Balance sheet of the Central Council for Research in Indian Medicine and Homoeopathy, New Delhi and obtained all the informations that I have required and subject to observations in the Inspection Report appended, I certify as a result of my audit, that in my opinion these accounts and the Balance sheet are properly drawn up so as to exhibit a true and fair state of affairs of the Council according to the best of my information and explanation given to me and as shown by the Books of the Council.

Sd/-
(J.K. DASS)
ACCOUNTS OFFICER
C.G.R.I.M.H.

Sd/-
(D.P. SHARMA)
ACCOUNTS OFFICER
A.G.C.R., NEW DELHI

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE

Printed at S. J. Printing Press N.D.S.E. Part-I New Delhi-49
Phone : 626154

AMUDHAKALASAM SIDDHA LITERARY RESEARCH CENTRE